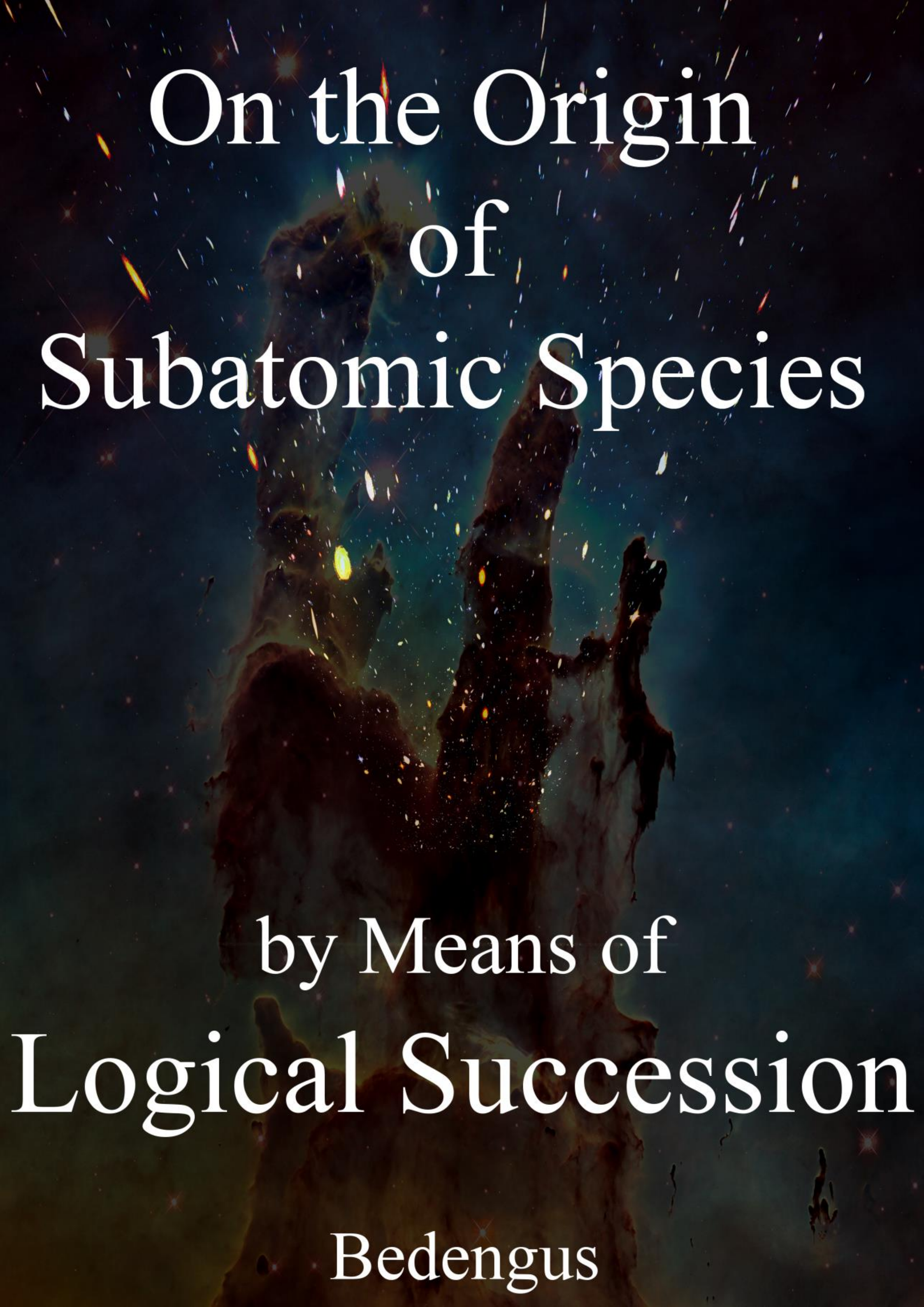

On the Origin
of
Subatomic Species

by Means of
Logical Succession

Bedengus

Successionem Logicae

or

On the Origin of Subatomic Species

by Means of

Logical Succession

by Bedengus

First Edition

As originally written on June 2023

The very first complete presentation of the arguments for Logical Succession

Rawly unpolished and incipiently unaltered

Preface

This brief treaty has as a purpose to present a general overview on the theory of Logical Succession for the most general public; for that I have foregone every equation, as the formal proofs would not fit on the footnotes anyway.

The presentation consists of thought experiments followed by ancient and modern explanations for it upon which they are contrasted and a validity of a scientific statement is sought.

This is a 'theory of everything', as far as we currently can[1], and familiarity with the history of economics, the history of biology and the history of scientific theories will greatly benefit the reader in seeing the generality of the exemplified statements.

I hope this work brings not the 'joy' of agreeing with preconceived notions or the playfulness of 'suggestive thoughts', but that it may bring one to the deepest contemplation of reality and the lawless insecurity of it; for indeed there is no more wonderful experience than that and I wish you only the best, lovely inquisitive reader who took of your time to listen directly to me.

> "The most unmerciful thing in the world might be the ability of the human mind to eventually correlate all its contents since it feels like we were never meant to travel far into these dark seas of infinity, but to forever live on our placid island of ignorance; for while the sciences go on reaching out each on its random direction it might be that one day these pieces of dissociated knowledge might fit with one another to together open up so terrifying vistas of reality that not bearing our frightful position therein those who do not go mad with the revelation will flee from the deadly light into the peaceful safety of a new Dark Age."[2]

---

[1] "It has often and confidently been asserted, that man's origin can never be known: but ignorance more frequently begets confidence than does knowledge: it is those who know little, and not those who know much, who so positively assert that this or that problem will never be solved by science."

– says Robert in his introduction to The Descent of Man.

Equally I do not claim to have some 'final answer', but simply that it encompasses everything known as far as we can infer currently; and so neither do I claim there are no improvements and corrections of it to be made on the future when we grow wiser or more knowledgeable – that is, I argue against 'ignoramus et ignorabimus' slightly at the harmful consequences, rather than usefulness, and mostly that exactly because of ignorance we are unable, by necessity of logic, to affirm any such ultimate discovery of some absolute unknowable.

[2] *Kaiho 1: 一: I: η* `, which is in itself a paraphrase of Phillips in the opening of Call of Cthulhu. For a casual, vulgar and progressive presentation of the theory, as well as many of its extents beyond physics into economy or moral and politics, read my main work of Kaiho.

A Heated Debate

I – The Scenario

First let us imagine a cold day.

For me that is anything near twenty degrees Celsius, but what so ever might be your judgement and criteria of a cold day I believe we could readily agree that we would promptly let go of a metal pole or a metal wall plate if we touched or supported ourselves on one while we would not mind a wooden or plastic version of it.

Perhaps shrinking from a metal that was exposed to the sun is a better example while we would not mind sitting on a wooden bench, however today is overcast and when a breeze blows we shiver at how 'cold' it is – if it is windy some might even curse at the weather report saying that it is not possible to be the displayed temperature because 'it is colder than when they reported an even lower temperature'.

Many right now should be guessing the 'answer' on their minds saying that it is the 'apparent temperature'; while other have cursed at that cryptic name to and instinctively argued that 'there is no such thing' and that 'if they are feeling cold then that is the temperature'.

Those claims can easily be undone with a short strings of thoughts; for being exposed to the environment the metal and the wood can only be at ambient temperature even while we feel them at 'different temperatures'.

So it might be said that our senses, then, are 'wrong', but rather I would argue that the senses are working perfectly well within their degree of accuracy; the error instead being on our ambiguity and lack of rigorous definition of what we are even discussing about – that is, 'temperature' or perhaps 'coldness' or 'heat'.

We can attack the wording of 'apparent temperature' because we do not have some infrared sensors or any other capacity to measure how 'hot' something is; so that everything is to us 'apparent temperature' because we only feel the 'rate of transmission' – a metal having a high rate we feel its 'coldness' or 'heat' much more intensely than a piece of wood at the same temperature since that material has a 'lower rate of transmission'.

This is very well established within our modern sciences being taught on the most basic textbooks and also a very common daily interaction that we all have with anything that is not at equilibrium with our hot-blooded bodies, yet it still is a new information and discovery to most people since very few paid any attention to their forced education and even less ever had to trouble to wonder why anything happens.

Most even laugh at and ridicule the common line that 'cold does not exist' and are somehow so offended at the idea that their interpretation of their own senses are preconceived misconceptions that most even deny the idea that 'cold is just the lack of heat' without giving any thought to understanding what is being argued and described.

When they do pay attention then and hear such simple explanation they might be taken with awe at how they never thought about it before; and go on accepting that explanation feeling like 'everything makes sense now'.

To me, however, I am now both cold and perplexed.

And I suggest you to be the same and not 'accept' anything that 'seems good', but to wonder 'how would that other thing then cause that phenomenon?', 'how do they know that?' and 'does it answer and explain anything or does it simply move the mystery to another new and unexplained concept?'.

First I only had to worry about some concept of 'coldness' that I instinctively felt like I understood; there was an 'object' and there was some 'heat energy' occupying the same place as it, but now I have to juggle with 'true temperature' and 'apparent temperature' and some intrinsic characteristic of matter called 'rate of transmission' that interacts with the 'heat energy' in a specific way to define the difference between those two kinds of 'coldness' or of 'heat'?

Let us see if some different ways of explaining it help us.

II – Explanations

Aristotle says heat is heat. He can feel it thus it is real to him; it is a non-physical kind of power which exists to make things hot and is inherent existent within the matter of the elements. Coldness too is so and something feels hot or cold when one overcome the other by there being an imbalance of the powers on the object.

For him then that is simply how the gods made the world to be; the gods who endowed them with such powers for their own reasons when they created order in the universe.

That is quite alike our normal intuition, although most today would not accept his justification that some primordial mover and his Olympians offspring made the world.

Francis Bacon says heat is heat, but with 'evidence' since he claims Aristotle just imagined his answer and had no evidence for his claims; so with the fact that when eating some seasonings he could feel the 'heat' on his tongue, that alcohol also felt hot when he drank, that some oils felt hotter than water to the touch at the same ambient temperature and so with other material like all animal clothes and living things – then his conclusion was that each ranked differently on how close they were to the 'true form' of heat created by god and partook of it in different amounts on their composition. The night was cold even on the moonlight so it carried no heat; and he felt rather colder at night on the moonlight so it is probably cold, but ‘coldness’ he separates as another theme discussion even though it confuses him how the same water feels hot or cold depending if our hand itself is hotter or colder than it. He also experimented with wires and ‘proved’ that the heavens spin faster the higher one go so that the Earth must be still and the centre of the universe; and that ‘it is inadmissible to even consider the other possibility’ – and so on almost his every result are the exact same answer of Aristotle, except that Aristotle was wrong in attributing that purpose of creation to his gods, blind by his ‘idols of the theatre’[3], because it is obvious and evident that all the others gods are made-up fairy tales except his own so that it was his god that made those inherent characteristics and power of heat for some purpose for his creation.

Some billions of people today might feel more inclined to this one, but I say they are exactly the same; and there are numberless of such acceptance of our basic instinct that ‘heat’ is just such power distinct of everything of the universe because some creator design it like that – all valid and invalid in the exact same degree – so let us seek a different one.

Dalton gives us one right at the opening of his famous work; he starts with ‘the most probable opinion concerning the nature of the caloric...’ so that I thought he was going to use a bad popular notion to build upon and correct it, but he is actually affirming what is the explanation that he sees as the most probable of being right – and so he goes on describing heat as a very subtle gas that repeats itself while also being attracted to every other body.

---

[3] “Sunt denique idola, quae immigrarunt in animos hominum ex diversis dogmatibus philosophiarum, ac etiam ex perversis legibus demonstrationum; quae idola theatri nominamus; quia quot philosophiae receptae aut inventae sunt, tot fabulas productas et actas censemus, quae mundos effecerunt fictitios et scenicos. Neque de his quae jam habentur, aut etiam de veteribus philosophiis et sectis tantum loquimur, cum complures aliae ejusmodi fabulae componi et concinnari possint; quandoquidem errorum prorsus diversorum causae sint nihilominus fere communes. Neque rursus de philosophiis universalibus tantum hoc intelligimus, sed etiam de principiis et axiomatibus compluribus scientiarum, quae ex traditione et fide et neglectu invaluerunt. Verum de singulis istis generibus idolorum, fusius et distinctius dicendum est, ut intellectui humano cautum sit.”
– Novum Organum Unus LXIV, where ‘idols of theater’ are the preconceived beliefs; which he criticizes while he glorifies the name of ‘the true unquestionable god’.

“At vere rem reputanti, philosophia naturalis, post verbum Dei, certissima superstitionis medicina est; eademque probatissimum fidei alimentum. Itaque merito religioni donatur tanquam fidissima ancilla: cum altera voluntatem Dei, altera potestatem manifestet.”
– Novum Organum Unus LXXXIX, where after spending most of his time with the most severe offenses to those who are superstitious providing answers on occult imaginary beings he justifies by saying ‘because only christianity is right, obviously beyond any doubt of course; it is even a sin to question the veracity when it is clear that my religion is the only true one and all the others are demons’.

That is very different from the other metaphysical explanation about some 'inherent heat energy outside the physical world'; and he goes on to say that 'each kind of matter has its peculiar affinity for heat'. That is not a description of our 'transfer rate' in question, but does touches other 'properties' of heat; treating it has a complex thing with many interactions and that spreads akin to a gas to everything around rather than just that magical 'heat energy' – also quantifying it so that the gas fills each body in accordance to its amount and that there is no 'cold gas' as counterpart of it, but that 'cold' is the seeping out of the heat-gas of a body to its surrounds.[4]

He tries to reduce 'the magic energy that I feel' to something more tangible and known; which is the behaviour of a gas. It explains more of 'how heat works' and it is less of an invention to suppose the existence of such gas, even if never observed, than to accept the more unexplainable proposition of 'inherent energy present on every bit of matter'.

It is also farther form our senses, but it also allows us to understand it deeper; it is able to tell us things about 'heat' which the others are not – as its behaviour being mathematically quantifiable in a proportion of how much is it sutured with gas, the 'true temperature', and how fast it will transfer to each other material, the attraction of their 'atoms' to that gas.

We have still to explain the 'gas', but it does tell us more about 'heat' than simply accepting its mysterious existence and rather than a metaphysical energy it explains different phenomena as that of our question about 'true temperature' just as that different objects can take a different amount of heat to get to the same proportional saturation.

But while we seem to be growing more scientific and understanding deeper 'how heat works' he actually already answered our original question about the cold; the most powerful part of his explanation is that instead of admitting two distinct energy that somehow exist in the world he explained how 'cold energy' does not need to exist in order to explain 'cold' – since the loss of 'heat' itself would explain how things get 'colder' rather than an infinite accumulation of some 'heat energy' and 'cold energy' competing within every object.

Simply the answer to 'what is heat' explain also 'what is cold'; the reason to separate those two things were nothing more than our preconceived notions and how we interpret our 'senses'.

Still I have no praise to give Dalton on this point since two century earlier René had already said that; and he went farther saying not only that 'cold does not exist', but also that heat too is not real.

---

[4] "The most probable opinion concerning the nature of caloric, is, that of its being an elastic fluid of great subtilty, the particles of which repel one another, but are attracted by all other bodies.
When all surrounding bodies are of one temperature, then the heat attached to them is in a quiescent state ; the absolute quantities of heat in any two bodies in this case are not equal, whether we take the bodies of equal weights or of equal bulks. Each kind of matter has its peculiar affinity for heat, by which it requires a certain portion of the fluid, in order to be in equilibrium with other bodies at a certain temperature."
– A New System of Chemical Philosophy I.

He had many strokes of geniality, but let us consider how he diverged from his predecessors.

Instead of making up some special power in the universe to interpret it he considered what else was there that could perhaps explaining it without any extraneous addition; we do feel ‘hot’ and ‘cold’, but are those arguments of ‘feeling’ just as valid as their own interpretations and ideas of ‘feeling’?

Seeing that the sun and moon look to be the same size or that his extended fist is bigger than the sun is no basis to prove that; just like as we judge a same item brighter or darker depending solely on the background we have to compare it to – the outside stimulates our ‘senses’, but the interpretation of that information is entirely made up by us. Or very well the Kantian ‘argument’ that ‘just as the senses feel the exterior and that proves things I can feel the interior connection with my spirit that tells me that it is true’ would ‘prove’ anything anyone wanted to be true.[5]

And how do we perceive heat or cold? Is it not some kind of pain, when it is violent, and some kind of tickling, when moderate? So that our sense of touch without any special ‘organ to sense heat’ is responsible for ‘feeling heat’; when we simply rub our hands together we can feel sudden heat without fire when all we did was to introduce motion to the small parts that compose our hands – therefore if the small parts of any object are just moving violently and colliding with our hands we have the ‘sensation of heat’ without there truly being any correspondent force in nature for that sensation.

He did not write that train of thought, but the explanation he gives is the most beautiful and precise description of the phenomenon ever written before or after him.

For now I can say that our modern science entirely agrees with him, but it was only rather recently that we had the brute force to peer so detailed into things that we could see that ‘heat’ did not exist at all as that was truly just the independent motion of the small parts of the object.

But René could not have brute-forced it by literally seeing everyone else was wrong; by pure means of reason he arrived at such astonishing truth that most people will still refuse to even think about accepting – that ‘heat’, as some individual and unique force, does not exist.

---

[5] “Ist dieses nun nicht geschehen, und kann es auch, wegen der Untauglichkeit des gemeinen Menschenverstandes zu so subtiler Spekulation, niemals erwartet werden; hat vielmehr, was das erstere betrifft, die jedem Menschen bemerkliche Anlage seiner Natur, durch das Zeitliche (als zu den Anlagen seiner ganzen Bestimmung unzulänglich) nie zufrieden gestellt werden zu können, die Hoffnung eines künftigen Lebens, in Ansehung des zweiten die bloße klare Darstellung der Pflichten im Gegensatze aller Ansprüche der Neigungen das Bewußtsein der Freiheit, und endlich, was das dritte anlangt, die herrliche Ordnung, Schönheit und Fürsorge, die allerwärts in der Natur hervorblickt, allein den Glauben an einen weisen und großen Welturheber.”
– Kritik der reinen Vernunft, Critic of Pure Logic, Preface II.

Our entire point here is to reason also and determinate why, even without having the visual ‘proof’, we could side with René in denying all other explanations as unfit.

III – The Original Elements

The entire modern world follows ‘western science’ and the global multicultural scientific community converged from their many native sciences to accept the compelling propositions and results of the Europeans explanations; and while much of it was made recently on the last centuries we can trace the direct origins of our modern scientific model straight to ancient Greece – for although Greece was defeated by the lords of Rome and Europe, it was Greece who conquered the world.[6]

And Aristotle view not only reigned supreme until late into the Scientific Revolution, but I say that his influence is still all-pervading and defines almost all thoughts still today; although not as explicitly.

So I bring up Aristotle who compiled most of the surviving glimpses of ancient scientific theories and whose model reigned supreme over all for two millennia well into the Scientific Revolution; and I say that, although less explicitly, his influence is still all-pervading and defines almost all thoughts still today.

Now in all of his works I have no memory of he dealing exactly with this question of why some material might feel colder or hotter than other when both are at ambient temperature, but he did have a theory of everything which provides the model for his answer; and even if that was not the case, any single special theory on a single subject is either compatible or not with some theory of everything and is thus a hint to a greater generalization of what such greater theory would have to preserve in order to accept it.

Aristotle maintained the idea of the four elements; of fire, air, earth and water.

That says very little to nothing since such ideas have convergently been developed independently around the world and while many of his critics are about those who only accept a few or other elements many others are to those who accept the same four, but interpret them differently.

His interpretation was rather more complex and elegant than most; besides the four elements as physical units of matter he also advocated for four energies which would interact with the four elements to change them – so that fire was hot and dry, but could be transformed into air by being overcome with wetness for air is hot and wet while it could also be overcome by coldness at which it would become earth which is cold and dry. Earth then is the opposite of air; and the opposite of fire is that which is cold and wet, water.

---

[6] “Graecia capta ferum uictorem cepit et artes intulit agresti Latio”
– says Horatius in Epistulae II: 156-157.

After some simple abstract examples Aristotle moves on to his many other topics, but from Vitruvius we have a long and detail exposure of how that model produced wonders as that of Roman engineering; he lists many different kinds of trees and how their wood have different properties and thus they interacted differently with the environment and were resistant to water or weak to it, strong or soft, easy to burn or resistant to fire – all such characteristics are resumed by the explanation of how different proportions of each element lead to that.[7]

He also mention many rocks that are useful in different parts of construction or sculpting, or even which kinds of rocks are good to be burn as lime, while it is also hinted to the medicinal sciences about which plants and minerals should be used for each sickness; explaining all human health as four liquids inside the body and how the ingestion of each element affect their balance to make people healthy or not.

We might scoff at it and see as primitive thoughts before all our modern technology and knowledge, but it was a very efficient way to explain the world by correlating many phenomena within a few causes; a very good way to memorize properties of many things and try to justify, classify and quantify all the complex behaviours on a set of rules.

And for that we have the many wonders they left behind; Vitruvius even describes a rotating steam engine, which he uses to 'prove' that water when heated has its 'coldness' overcome with 'heat' and turns to air[8], and if they were not so busy with political upheavals they would have had an industrial revolution and started 'modernity' two thousand years ago.

The Renaissance philosophers were in shock on their great conundrum about how to keep metaphysics relevant and describe it as a 'science' when the 'purely mechanical world' of physics proved itself right by producing such amazing results causing revolutions on humankind when metaphysics had never produced anything; yet what we see from Rome shows that it is not a 'failure to produce results' that made their sciences 'false', as they are treated today, but something else that even after having produced such wonders still invalidates it as a failed description of reality.

---

[7] "Quare cavendum esse videtur in moenibus conlocandis ab is regionibus quae caloribus flatus ad corpora hominum possunt spargere. namque e principiis, quae Graeci στοιχεῖα appellant, ut omnia corpora sunt composita, id est e calore et umore, terreno et aere, ita mixtionibus naturali temperatura figurantur omnium animalium in mundo generatim qualitates."
– De Architectura Unus IV: 5, which is a much clearer and beautiful description than all roundaboutness of Aristotle.

[8] "Ventus autem est aeris fluens unda cum incerta motus redundantia. nascitur cum fervor offendit umorem et impetus calefactionis exprimit vim spiritus flantis. id autem verum esse ex aeolipilis aereis licet aspicere et delatentibus caeli rationibus artificiosis rerum inventionibus divinitatis exprimere veritatem. fiunt enim aeolipilae aereae cavae. hae habent punctum angustissimum quo aqua infunduntur conlocanturque ad ignem, et antequam calescant non habent ullum spiritum, simul autem fervere coeperint, efficiunt ad ignem vehementem flatum. ita seire et iudicare licet e parvo brevissimoque spectaculo de magnis et inmanibus caeli ventorumque naturae rationibus."
– De Architectura Unus VI:2.

Indeed Aristotle claimed his investigations into how the world worked to be the most noble of undertakings, but one purely of intellectual pleasure with no advantage or result to be gained on the world by knowing how it worked.

We will return to that soon, but for now let us see how we can extract the explanation from his system of the world.

Just that it is not yet a complete description of his system so I ask the reader to bear with it and know that I also feel pain for imposing the trouble of understanding ancient erroneous thoughts and their convoluted 'science', but it is not only necessary as an example of the criteria of a 'valid' scientific description as well as a historical knowledge necessary to compare and judge the much more vast, and convoluted, modern sciences.

His example about heaviness is one of the clearest and most beautiful of the infinitely many regressions-to-infinity that Aristotle made in order to induce the necessity of his point or to arrive at a contradiction to invalidate his opponent.[9]

He arguments on the lines that when you have two objects of different weights that difference is some third weight which if added to the lighter would equal them or if taken from the heavier would equal them; that the only thing that can make something 'heavier' or 'lighter' is some amount of 'weight'. And therefore if he has 'a body of four points' a body with more will be heavier by having a superior weight; if that body is 'five points' then subtracting the lighter from the heavier he will be left with 'one point' which is the difference in weight between them – 'and thus a point has weight'.

His point is that every point in a body will have 'weight'; dividing a body will simply make a 'lighter' body which is one with 'less weight', but there will be no remains that have 'no weight' because it is impossible for a collection of parts with 'no weight' to make a body that has 'weight'.

He rejects the Platonic 'forms' for every possible item, but keep them in a limited form; that which he cannot remiss he declares to be a 'perfect form' as an intrinsic characteristic of matter. And thus matter has 'weight' in some higher or less degree; 'weight' defined by him as how much it partakes of the perfect form of 'heaviness' and 'lightness' – for so he argues that there is

---

[9] "Ἀλλὰ μὴν οὐδ' ἐκ μὴ ἐχόντων βάρος ἔσται βάρος. Καὶ γὰρ ἐπὶ πόσων συμβήσεται τοῦτο καὶ ἐπὶ ποίων; Ἢ πῶς διοριοῦσι μὴ βουλόμενοι πλάττειν; καὶ εἰ πᾶν μεῖζον βάρος βάρους βάρει, συμβήσεται καὶ ἕκαστον τῶν ἀβαρῶν βάρος ἔχειν· εἰ γὰρ αἱ τέτταρες στιγμαὶ βάρος ἔχουσι, τὸ δ' ἐκ πλειόνων ἢ τοδὶ βαρέος ὄντος βαρύτερον, τὸ δὲ βαρέος βαρύτερον ἀνάγκη βάρει εἶναι, ὥσπερ καὶ τὸ λευκοῦ λευκότερον λευκῷ, ἔσται τὸ μεῖζον μιᾷ στιγμῇ βαρύτερον, ὥστε, ἀφαιρεθέντος τοῦ ἴσου, [ὥστε] καὶ ἡ μία στιγμὴ βάρος ἕξει."
– Περί Ουρανού, On The Heavens, III: I.

‘absolute heaviness’, which is the property of moving towards ‘the centre’, and ‘absolute lightness’, which is the property of moving away from ‘the centre’ of the ‘Earth’ or the ‘universe’ which are to him the same place as Earth is at the centre.

And so on; the colour of objects proving that colour is an inherent characteristics since ‘many colourless things could not produce colour’, the capacity to move showing that all its points are inherently moveable, the inherent characteristic of size since if it has size it cannot be made of sizeless things and the capacity of things to burn show that every element is capable of turning to fire – which would lead to an unbalance in the number of elements and thus they can also convert back into each other.

With this Platonic form, although ‘limited’, or ‘inherent characteristic’ we can then describe the phenomena of ‘heat and apparent heat’ as presented above.

He does says that ‘darkness is the absence of light’ and ‘cold is the absence of heat’, however he also discusses the ‘relatives’ of comparison and advocates for some ‘absolute’ form of characteristics on the manner of Platonic forms; so I will suppose he has an absolute form of coldness.

So that something feels hot or cold in accordance of how much one of such ‘powers’ overcomes the other on the object by being present in unbalanced amounts; and metal is hotter than wood because it contains more elements of earth, which when exposed to heat become elements of fire which are absolutely hot by nature – while the fire can easily be quenched back and the earth, being cold and dry by nature, has the inherent characteristic of being felt as cold as its nature more than the more mixed state of wood where fire and other elements make it less susceptible to make out the coldness in it.

IV – The Criteria

That is in harmony with his descriptions of the world; and allows us to classify different metals by their elementary composition of earth to find out the best to transmit heat or cold and on how they are affected by stressed and factors of the environment – and having such classification of materials is extremely useful for architecture and quickly communicating how the material behaves.

If it produces the same list of our explanation of ‘transmission rate’ then how is it wrong or why is it a worse scientific theory?

Iſaac initial assertion is quite good, that we are to admit solely that which is both good and sufficient, although listing ‘good’ and ‘sufficient’ separately can be argued to be already redundant and against his own law; the second one, that thus we must assign to a same natural phenomenon the same causes, is completely redundant and extraneous – and the third, besides being once again meaningless repeating himself, is identical to Aristotle inherent characteristics and providing an ‘ignorant answer’ rather than admitting incompleteness and seeking a description.[10]

We can simply call it ‘parsimony’ then; it has to be just sufficient to explain the phenomenon in question – so if two different explanations are provided we have to pick that which reduces it to less causes cutting off the extraneous elements of the other.

Before we can judge it to be ‘sufficient’ we have to define what even is an acceptable ‘description’; to which we can forgive the listing of ‘good’ and ‘sufficient’ separately and say that anything is a description and comparing how ‘good’ they are – ‘good’ meaning that we can ‘understand’ the thing being described. If we understand something we can reproduce it and know how that system when closed will develop; that is it allows us to both infer the past and elicit the future; the more accurately it is so the more ‘good’ it is as a description.

That already exclude probabilistic approaches, but it is the very requirement of logic; for if the operation of ‘logic’ is taken as the very natural description of ‘a sequence of steps that by necessity produce a result’ then it is absolutely deterministic by definition – rationality and sciences are based upon nothing more than the idea of ‘cause and effect’, which denied is on the realm of faith and pseudo-sciences beyond reality or the validity of evidence and argumentation.

Aristotle rejected about everyone who had ever lived thus far and simply praised when some or other had an idea with which he agreed to; one of the most interesting ones of such denials is that of Anaxagoras where he says that he is wrong for ‘describing the world like a machine where things happen by necessity rather than from a higher will’[11] – as such a scientist who attributed a reason of elements for most characteristics it is clear that Aristotle treated much of the world as a sequence of cause and effect, but then he denied its generalization to everything because of his preconceived belief that while everything followed mechanical steps to competition there was the need of a ‘reason’, ‘the cause of a cause’, that endued purpose to that phenomenon.

He was quite right in rejecting many claims, as something claimed with no evidence requires no justification to be rejected, but his reasoning in rejecting can be seen to be quite wrong on this case; it simply did not fit with his preconceived creationists ideas that the ‘arithmetic necessity’ observed in everything could extend limitless – he does tries to justify with the greatest arguments for the existence of the gods that have ever been written, but being beyond and above the very 'logic' of the 'physical world' we can only reject the baseless claims of his imagination.

---

[10] “I. Causas rerum naturalium non plures admitti debere, quam quæ et veræ sint et earum Phænomenis explicandis sufficiunt.

II. Deoque effectuum naturalium ejusdem generis eædem sunt causæ.

III. Corpus omne in alterius cujuscunque generis corpus transformari posse, et qualitatum gradus omnes intermedios sucessive induere.”

– Philosophiæ Naturalis Principia Mathematica.

[11] “Ἀναξαγόρας τε γὰρ μηχανῇ χρῆται τῷ νῷ πρὸς τὴν κοσμοποιίαν, καὶ ὅταν ἀπορήσῃ διὰ τίν' αἰτίαν ἐξ ἀνάγκης ἐστί, τότε παρέλκει αὐτόν, ἐν δὲ τοῖς ἄλλοις πάντα μᾶλλον αἰτιᾶται τῶν γιγνομένων ἢ νοῦν.”

– Μεταφυσικά, Metaphysics, I.

Yet, while that is how we ought to proceed in life, for the purpose of this demonstration we can accept their explanations to rather than 'valid' or 'invalid' we ask ourselves which is 'best'.

Supposing Anaxagoras to be an average Atomist then I would say they were actually right, however just saying 'there is some indivisible particle' and not elaborating anything further is a hard, and rather pointless, thing to accept.

Then let us say that Aristotle comes and proposes that instead of one element there are four.

That seems to be a regression and a failure of our parsimony, however we have to ask how well we know the world with each of these views. Do the Atomist explain why some woods burn better or why some plants can heal the body or our diseases?

Indeed Aristotle admits more things, but just likewise it explains more things; so his saying that 'god created the four elements' is a better explanation than the base of 'god made everything' – because on one we can understand, and therefore predict, a system better so that the other one is shown to be faulty and insufficient.

If we could make the same elemental system of Aristotle using only three elements then once again we would have found a better one; even if our understanding is unchanged it is parsimonious and revels that one of the elements admitted was superfluous and an unreality which there was no necessity to be admitted.

The proposition that 'coldness' does not exist is then an improvement to our theory since it explain the same phenomena, and more actually, by simply admitting 'heat' instead of two things; by explaining 'cold' as the loss of heat we show that the concept and admittance of 'cold' was superfluous.

Now; that does not mean that 'cold does not exist'. It might as well exist. But even if it does what I am saying is that we have no evidence to justify its existence; we are forced to admit that it is not necessary for it to exist – and thus, while we cannot truly judge and prove 'existence' itself, we are forced to take simply that which we cannot deny. Anything more is superfluous and worse, or 'wrong', when compare to the more parsimonious theory that produces the same results.

The advantage of being parsimonious is very clear; since by not admitting some magic 'cold energy' and instead explaining it with something else we are forced to detail mechanics and steps by which that would be the case – rather than complacent acceptance of 'having an answer' it leads to a deeper and more precise understanding of the phenomenon.

Therefore 'results' are not the measure; as a new theory cannot have yet any results and we cannot simply mindlessly try to implement every theory to judge by the 'results'; a theory which is superior on our criterion of ‘goodness’ provides more understanding and thus allows for the prediction and manipulation of the subject which leads to results and a negative result, some contradictory and unexplained phenomenon, is fatal to a theory – yet having produced something is not ‘proof’ that we have arrived at some perfect and unchangeable description.

On the other hand understanding is indeed the power to produce results; ‘Knowledge is power.’ is often attributed to Francis, but his actually line is much more beautiful and meaningful when he said that ‘The science and power of humans coincide into one; he who is ignorant of the cause is destitute of the effect.’[12] – and only a description of some mechanics, and not some made-up ‘law’ or ‘particle’ that magically brings the phenomenon into fruition, brings that ability to cause the effect we want.

Let us see how justifiable and good are the propositions that Dalton put forth then.

He as a chemist would take some material and process it in order to reduce it to some ‘pure’ components which were the new list of ‘elements’; water itself had been broken down into two different components and that simply update the known ‘formula’ of every material to have that as its elements instead of ‘water’. Dalton noticed that the rate of the elements was not any random number in the mixture, but increased in exact amounts being double or so many times as some common divisor between them; some gas would be formed on a proportion of 1:1.33 of carbon to oxygen while some other at 1:2.66 – there was no middle term, but it increased only by multiples of some base amount.

From this he inferred they were discrete packets; some smallest carbon unit weighted exactly that in proportion to oxygen and each element had such indivisible smallest unit with some weight in proportion to the others.

Very weirdly he called these molecules ‘atoms’ even thought he was literally arguing that they were perfectly quantifiable and stoichiometrically divisible back into its original components.

Now today we know that is not the case and each ‘atom’ is itself composed of several parts; a same ‘element’ having several isotopes and the very parts of that being itself some structure composed of smaller parts. But that is pure brute force and we are here to argue why we should denounce it as wrong even before we could truly peer that such packets atoms even existed.

We could do that because just listening to his theory we can produce a better one; we accept the fact of there being, to our best measurement tools, discrete units, however that is all we need to admit – it is a quite insane and wild jump of logic to say then that such are indivisible and the building blocks of the universe. There is no necessity to admit that; it is completely extraneous and needless for the description seen.

---

[12] “Scientia et potentia humana in idem coincidunt, quia ignoratio causae destituit effectum. Natura enim non nisi parendo vincitur: et quod in contemplatione instar causae est, id in operatione instar regulae est.”
– Novum Organum Unus III, where the other citation might be attributed to some alike one on his Meditations or to his secretary in Leviathan.

Aristotle, for example, could just as well argue that they are discrete because they contain some exact amount of his four elements; and that the difference in weight between each of those shew that they held a different amount of elements while the different behaviour of each shew a different proportion of the elements.

The discovery of Dalton does not prove, or requires, it being an indivisible block; it does not disprove or serves as argument against Aristotle – instead both are needless and extraneous things proposed beyond any evidence or necessity.

Far from being forced to admit such a conclusion we are forced to deny it as a meaningless and unjustified addition.

There was never any reason to propose that there could not exist anything smaller or any component to his packet; no necessity for them to be 'atoms'.

But we do can sympathize and understand why he was so hasty taking such unscientific jump; he could not differentiate two things so he did the absolute absurd and said they were indivisible and identical in every way – he followed Iſaac's third rule and postulated it as some fundamental part of the universe, a thing made by god to be that way and which needed no further explanation then.

He has much grossed errors by such justification, however, since while he spends a long time listing all combinations and characteristics of the pure materials that he found he also expends a good portion of his working arguing for some thermodynamic law; that materials when filled with the heat-gas have to expand in an exact proportion to their density – and his justification for why that is the case and that there is a 'thermodynamic law' controlling all heat-related phenomena is a really enlightening one in explaining why he proposed unnecessary absurdities.

He says that 'heat is a very important agent in nature' and so 'it cannot be doubt that is must be subject to general laws'.[13] His reason is identical to that of Aristotle; that the natural phenomena come from some higher will that made them for a purpose – and thus as we watch the mechanical behaviour we can find the equation that god wrote for that 'important agent in nature'.

The second part of the same paragraph is even funny because he says that it is an insufficiently comprehensive view that makes one not give a reason and description of something; like his very postulation of ‘atomic’ things and search for a magic ‘law’ which distinguished heat from all gas and matter back into the realm of a mysterious energy from god.

---

[13] "Heat is a very important agent in nature ; it cannot be doubted that so active a principle must be subject to general laws. If the phenomena indicate otherwise, it is because we do not take a sufficiently comprehensive view of them."

– A New System of Chemical Philosophy.

The only reason to call them atomic, and for seeking some ‘law’ on the form of an equation that could perfectly describe the observed behaviour, was his own preconceived notions; or rather as it is very clear the preconceived notions imparted into him and which have ruled over physics since our oldest registers.

We can just brute force and use our current knowledge to say simply that ‘he was wrong’, but that is extremely trivial and far from the question; because René was right – and that was many centuries even before we had that answer by brute force. Could we justify siding with him back then as a contemporaneous of Bacon? And could we deny later wrong theories, as from Iſaac and Dalton?

How did he know? How could we judge who was right and the best argument before we had the exact knowledge by literally seeing it?

That is the entire point of this heated debate on heat; because today we have the same problem many times over and before we actually have a confirmation and answer by brute force we are plagued with all these invalid ‘theories’ – which are continually repeated that every time they are shown to be worthlessly wrong and to be pure fantasy. We wander lost in the dark with no guidance when we accepted the ‘magic explanation’ that ‘this is just how it is’ and ‘god made it like that’; and no brute force will prevent them from, after being shown to be mindlessly wrong, repeating ‘now this next one is the final and most basic elementary particle of the universe’.

Let us see how justifiable was the claims of René; and if we could at the time accept them.

V – The Method

If all ideas were equally valid then all science and art would cease to exist since none could be more right or wrong than any other; the discrepancy of those ideas with the unwavering reality before us is the judge of how ‘correct’, how real, they are – so that we do not choose in ‘what to believe’, picking that which is most convenient to our preconceived notions, but rather than ‘having and answer’ we are simply forced to admit one thing over another.

Indeed it can be very hard to let go that which was indoctrinated into us our entire lives; to jump out to the unknown of admitting uncertainty and seeing how unfamiliar they world can be away from where we have always lived – to those brave enough to really question their beliefs and fairly judge this work I will say that no matter how bitter the medicine the disease is even more, and often on the course of our lives necessity, and not delight, is what compel us.[14]

On his explanation of ‘fire’ René has given us something amid the lines that:

“Without any ‘elementary essence of fire’ or special ‘energy of heat’ when a piece of wood burns it is already visible to the eyes how are moved the small parts of such material where the subtlest are as if transformed into fire, air and smoke while the grossest are left behind as ashes.

But such imaginers can put the ‘fire’ on the wood, put the ‘heat’ on the wood and give to it the capacity of being ‘burnt’ as much as it pleases them that no alteration or change would happen only by possessing such inherent characteristics; it is necessary the addition of such movement of its parts that dislodge it from its neighbours and separate them – and to the contrary abstain the thought of ‘fire’, ‘heat’ and ‘burning’ and nothing will be changed on the phenomenon provided solely that there is such power that violently move the particles.

Nothing more is necessary for the description of what we observe on the phenomenon of combustion and all collective movement arbitrarily called ‘heat’.

For in order for a body to move another it itself has to be in movement so that the body of ‘fire’ which acts upon the wood is composed of small parts which move themselves independently one of the other in such very prompt and very violent motion; since they would not have the strength that they have to act upon other bodies if they had not the velocity to compensate for their lack of grandness – while the fact that they are generally going upwards revels no other reason that is not the greater resistance offered at every other direction, and thus the set creates a single effect without any ‘natural tendency of movement’ or special universal law designed just for such specific species of phenomenon as each act by itself following the path made less difficult by the placement of the surrounding bodies exerting force upon it.

---

[14] “Tant' è amara che poco è più morte;”
– Inferno I: 7.

“necessità 'l ci 'nduce, e non diletto.”
– Inferno XII: 87.

“Und die Pflicht der Philosophie war: das Blendwerk, das aus Mißdeutung entsprang, aufzuheben, sollte auch noch soviel gepriesener und beliebter Wahn dabei zu nichte gehen.”
– Kritik der reinen Vernunft, Critic of Pure Logic, Preface I, where he says that ‘it is the duty of philosophy to destroy the misconceptions begotten from wrong ideas independently of how much false hopes and expectances be ruined’; and as he is saying something good for once I can complete that ‘because those empty promises would not be fulfilled anyway.’.

It is not necessary for the ‘fire’ any other characteristic besides such motion for the phenomenon which we observe to be created; and the sensation of heat is nothing more than the sensation of pain, when it is violent, or ticking, when it is moderate – it is the action of myriads of small particles colliding and generating the sensation on the small parts of our hand or body, not differently of how without any fire just by rubbing any random thing we create the same agitated motion perceived as ‘heat’.”[15]

---

[15] “E ne connois au monde que deux ſortes de corps, dans leſquels la Lumiere ſe treuve, ſçavoir les Aſtres & la Flâme, ou le Feu. Et parce que les Aſtres ſemblent ſans doute vn peu plus éloignez de la connoiſſance des hommes, je tâcheray premierement d’expliquer ce que je remarque touchant la Flâme.

Lors qu’elle brûle du bois ou quelqu’autre ſemblable matiere, nous pouvons voir à l’œil qu’elle remuë les petites parties de ce bois & les ſepare l’une de l’autre, transformant ainſi les plus ſubtiles en feu, en air & en fumée, & laiſſant les plus groſſieres pour les cendres. Qu’un autre donc imagine s’il veut en ce bois, la forme du feu, la qualité de la chaleur, & l’action qui le brûle, comme des choſes toutes diverſes ; pour moy qui crains de me tromper, ſi j’i ſuppoſe quelque choſe de plus, que ce que je vois neceſſairement y devoir eſtre ; je me contente d’y concevoir le mouvement de ces parties. Car mettez-y du feu, mettez-y de la chaleur, & faites qu’il brûle tant qu’il vous plaira, ſi vous ne ſuppoſez point auec cela qu’il y ait aucune de ſes parties qui ſe remuë, ni qui ſe détache de ſes voiſines, je ne me ſaurois imaginer qu’il reçoive aucune alteration ni aucun changement. Et au contraire oſtez-en le feu, oſtez-en la chaleur, empeſchez qu’il ne brûle, pourveu ſeulement que vous m’accordiez qu’il y a quelque puiſſance, qui remuë violemment les plus ſubtiles de ſes parties, & les ſepare des plus groſſieres, je treuve que cela ſeul pourra faire en luy tous les mémes changemens qu’on experimente, quand il brûle.

Or parce qu’il ne ſemble pas poſſible de concevoir qu’un corps en puiſſe remuer un autre, ſi ce n’eſt en ſe remuant auſſi ſoy-meſme. Ie conclus de cecy, que le corps de la flâme qui agit contre le bois, eſt compoſé de petites parties, qui ſe remuent ſeparément l’vne de l’autre, d’un mouvement tres-prompt & tres-violant ; & qui ſe remuant en cette ſorte, pouſſent & remuent avec ſoy les parties des corps qu’elles touchent, & qui ne leur font point trop de reſiſtance. Ie dis que ſes parties ſe remuent ſeparément l’une de l’autre : car encore que ſouvent elles s’accordent & conſpirent pluſieurs enſemble pour faire un même effet, nous voyons toutesfois que chacune d’elles agit en ſon particulier, contre les corps qu’elles touchent. Ie dis auſſi que leur mouvement eſt tres-prompt & tres-violant : car eſtant ſi petites qu’on ne les peut pas mêmes diſtinguer par la veuë, elles n’auroient pas tant de force qu’elles ont pour agir contre les autres corps, ſi la promptitude de leur mouvement ne recompenſoit le deffaut de leur grandeur.

Ie n’ajoûte point de quel coſté chacune ſe remuë : car ſi vous conſiderez que comme j’ay aſſez expliqué en la Dioptrique, la puiſſance de ſe mouvoir, & celle qui determine de quel coſté le mouvement ſe doit faire, ſont deux choſes toutes diverſes, & qui peuvent eſtre l’une ſans l’autre ; vous jugerez aiſément que chacune ſe remuë en la façon qui luy eſt renduë moins difficile, par la diſpoſition des corps qui l’environnent ; & que dans la meſme flâme il peut y auoir des parties qui aillent en haut, & d’autres en bas, tout droit & en rond, & de tous coſtez, ſans que cela change rien de ſa nature. En ſorte que ſi vous les voyez tendre en haut preſque toutes, il ne faut point penſer que ce ſoit pour autre raiſon, ſinon pource que les autres corps qui les touchent, ſe trouvent preſque toûjours diſpoſez, à leur faire plus de reſiſtance de tous les autres côtez. Mais apres avoir reconnu que les parties de la flâme ſe remuent en cette ſorte, & qu’il ſuffit de concevoir ſes mouvemens, pour

Thus he describes the phenomena of heat, fire and all things related as a same process; it reduces all of them to something already admitted, that is 'movement' – because if that is admitted then it is not necessary, and thus unjustifiable, to admit anything else in order to explain all these others.

It was not necessary to admit the 'absolute lightness' of Aristotle to explain 'why fire goes up' or to admit that things have a 'natural motion' they simply move by themselves and a 'necessary motion' of when 'something compels them to act against their natural motion', but it only moves or stop where it is shoved to.

Dalton, much later the matter was so beautifully answered, still engaged on the worthless pursuit of his 'law' that would explain that behaviour of heat and invented new magic objects to justify it; since with no cares to explaining any process he just sought 'the law god made to rule over this phenomenon'. He even made up new particles saying that 'the rays of light cannot carry heat and so the sun must also produce caloric rays' and that such would not interact with the transparent atmosphere and heat it up, but only with the opaque things on the ground; a common process to add if-else statements on their 'laws of nature' that 'only apply to some things' in order to hold on to their preconceive magical explanation.

At nearly the same time as René there are the logical statements of Hobbes that 'the senses in all cases are caused by the pressure, that is, by the motion, of externall things upon our Eyes, Eares, and other organs thereunto ordained'; saying that there was no necessity for what the universities taught about philosophical texts and the teachings of Aristotle saying that for the cause of vision

---

comprendre comment elle a la puiſſance de conſumer le bois & de brûler ; examinons, je vous prie, ſi le même ne ſuffiroit point auſſi, pour nous faire comprendre comment elle nous échauffe, & comment elle nous éclaire. Car ſi cela ſe trouve, il ne ſera point neceſſaire qu'il y ait en elle aucune autre qualité, & nous pourrons dire que ce mouvement ſeul eſt ſelon ſes differens effets appellé, tantoſt Chaleur, & tantoſt Lumiere. Or pour ce qui eſt de la Chaleur, le ſentiment que nous en avons, peut ce me ſemble, eſtre pris pour vne eſpece de douleur, quand il eſt violant, & quelquefois pour une eſpece de chatoüillement, quand il eſt moderé.

Et comme nous avons déja dit, qu'il n'y a rien hors de nôtre penſée, qui ſoit ſemblable aux idées que nous concevons du chatoüillement & de la douleur : Nous pouvons bien croire auſſi, qu'il n'y a rien qui ſoit ſemblable à celle que nous concevons de la Chaleur ; mais que tout ce qui peut remuer diverſement les petites parties de nos mains, peut exciter en nous ce ſentiment. Mêmes pluſieurs experiences favoriſent cette opinion. Car en ſe frotant ſeulement les mains, on les échauffe : & tout autre corps peut auſſi étre échauffé, ſans étre mis aupres du feu, pourveu ſeulement qu'il ſoit agité & ébranlé, en telle ſorte, que pluſieurs de ſes petites parties ſe remuent, & puiſſent remuer avec ſoy celles de nos mains.

Pour ce qui eſt de la Lumiere, on peut bien auſſi concevoir, que le même mouvement qui eſt dans la flâme ſuffit pour nous la faire ſentir. Mais parce que c'eſt en cecy que conſiſte la principale partie de mon deſſein, je veux tâcher de l'expliquer plus au long, & reprendre mon Diſcours de plus haut."
– Traité du Monde et de la Lumière II, which most perfect and exact description of the macroscopic effect of 'thermodynamic' supersedes in beauty and precision everything ever written before or on the three centuries after.

the object sent a ray of sight when it was a thing with the property of being seen and we with the capacity of sight absorbed that ray – that is often used nowadays to say that Aristotle was right when contrasted with Plato who said that the eyes shoot rays and scanned things, but both are very wrong as he is not talking about light bouncing off as Hobbes go on saying that 'for the cause of understanding too there is no need for the object to have the capacity to be understood and to send then rays of understanding that we solely possess the capacity of absorbing them to make us understand'.[16]

For every possible characteristic, as said, Aristotle adopted the Platonic forms and that objects needed the capacity to emit such rays, 'the capacity to be seen', just as we needed the capacity to absorb them in order to perceive anything, 'the capacity to see'; 'energy carriers' of some intrinsic magical property fundamental to things was his explanation to everything – which these two logicians clearly show to be a superfluous and meaningless addition to the admittance of motion, and which today we have brute forced the answer by seeing exactly that indeed the binding of molecules or the mere pressure of other less precise things provoke equally 'mechanical' processes on the wiring of our brains evoking 'senses'.

Indeed they have not described the photoreceptors of the eyes or our nervous system, but that would be a question of exact knowledge; they reduced to the minimum they could admit and provided the exact path for new discoveries to be made – a general description that begets inquiry and discoveries rather than an ultimate 'answer' that provides confortable complacence in ignorance.

What is 'motion', then? That is truly beyond the original question now; because we already admitted it as part of the world beforehand and we already not knew what was motion – so we truly and completely solved the question of 'heat' because we have reasoned that it is simply motion, and the answer to what is the phenomenon of motion solves both questions.

It was never needed to separate them; such separation of 'many laws' and 'elementary particles' and 'many forces' was purely their preconceived creationist notion that everything was 'for a cause' and designed individually by the hand of such creator – the 'organized phenomenon' that shapes them all to 'follow the same path' is merely the presence of an equal selective pressure and once these factors that produce that behaviour are changed, as by sitting near the bonfire, a new shape, behaviour or form is produced, as the smoke upon your face rather than straight up.

---

[16] "So that Sense in all cases, is nothing els but originall fancy, caused (as I have said) by the pressure, that is, by the motion, of externall things upon our Eyes, Eares, and other organs thereunto ordained.
But the Philosophy-schooles, through all the Universities of Christendome, grounded upon certain Texts of Aristotle, teach another doctrine; and say, For the cause of Vision, that the thing seen, sendeth forth on every side a visible species, (in English) a visible shew, apparition, or aspect, or a being seen; the receiving whereof into the Eye, is Seeing. And for the cause of Hearing, that the thing heard, sendeth forth an Audible species, that is, an Audible aspect, or Audible being seen; which entring at the Eare, maketh Hearing. Nay for the cause of Understanding also, they say the thing Understood sendeth forth an intelligible species, that is, an intelligible being seen; which comming into the Understanding, makes us Understand."
– Leviathan I: I.

Thus they are completely unjustified and need no reason to be rejected; it was factual the discrete packets seen by Dalton, but a giant leap of logic to have any claim that it was ‘indivisible’ or ‘the most fundamental particle of nature’ – such baseless assertion that comes from his beliefs are as anti-scientific as it can be so that it is not even a matter of debate the validity of such.

As easily seen the same ideas and justification permeates the entire work of Aristotle; and it has been so through all of sciences the crawl of progress against the preconceived doctrines of ‘species’ made as indivisible units as the intelligent design of some god.

We might as well be wrong and there might truly exist, for example, the four Aristotelian elements actually serving as the buying block of all our currently known ‘elementary particles’; the brute force of experiment might show that and then we would be forced to admit the reality of it – but with our limited knowledge where we must make the parsimonious choice of what is justifiable to admit we have no option but to deny them in favour of the simpler and less inventive theory.

Isaac Newton was a grand engineer, just as Rome produced great things, but his ‘laws’ are the repeated argument of Aristotle, now quantified, and he felt the need to add on the subsequent versions of his Principia the Scholium Generale saying how such laws were the gift of god designing the world for us and a show of the grandiosity of his god.

As great as his contributions were for engineering, just as great of a harm he did unto all Natural Philosophy and rational thought; he made a field where the sole pursuit was to ‘discover the formula that god used to make this phenomenon’ – each one being the independent work of creation as a unique species and law which requires no further explaining, but simply quantify the laws made by god for us.[17]

---

[17] On that very quote from René he mentions that to ‘compensate for its smallness it must be going very fast’; phraseology that Plato himself uses since it has always been evident to all that some ‘force’ is equivalent to both the acceleration an object as suffered and its mass – while Hobbes too, literally right after that quote on the opening of Leviathan I: II, says that ‘that a thing will lie still unless something stirs it is a truth that no man doubts of, but that when a thing is in motion it will eternally be in motion is not so easily assented to’. Both are methodically quoted from the Principia as if Isaac had been ‘the one who set the system of the world’ even when both of those paragraphs had been written before he was even born; his contributions were not on natural philosophy providing any explanation or theory but of an engineering kind providing precise measurement of the phenomena without any new model for it.

> “Tis unconceivable that inanimate brute matter should (without the mediation of something else which is not material) operate upon & affect other matter without mutual contact; as it must if gravitation in the sense of Epicurus be essential & inherent in it. And this is one reason why I desired you would not ascribe innate gravity to me. That gravity should be innate inherent & essential to matter so that one body may act upon

And that still describes our whole field of modern Physics.

---

another at a distance through a vacuum without the mediation of any thing else by & through which their action or force {may} be conveyed from one to another is to me so great an absurdity that I beleive no man who has in philosophical matters any competent faculty of thinking can ever fall into it. Gravity must be caused by an agent acting constantly according to certain laws, but whether this agent be material or immaterial is a question I have left to the consideration of my readers."
– says his famous letter to Richard Bentley; where he makes it obvious that he did not made the interpretation that everyone took of it has some 'innate power', but that he simply measured it and gave absolutely no explanation of theory of any mechanisms. He simply observed and quantified the phenomenon into the simplest equation he could.

Individual Acts Of Creation

I – If !Fire Then !Thermodynamics

After our cold outing we arrive home and promptly turn on the stove to make some cappuccino.

We take a ‘fervedor’ boiler; it is not like a kettle, but it looks more like a metal beaker with a handle – putting the milk in and it on the fire we watch the mesmerizing process of boiling.

Willingly or not we are forced back into the discussion for we have to admit one description or the other; ignorance and negligence are no longer possible after we started the process of reasoning – we can no longer accept some ‘essence of fire’ that moves upward or some ‘heat energy gas’ with some laws made by god ‘because heat is important to us’.

We must seek an exact and real description.

From experience we can anticipate the “dangerous climax where the proteinaceous foam expands porously due to the vaporous exhalations breaking the liquid hold of the agitated hydroxides even before the famous one hundred degrees, but not even Pasteur lived at sea level; which chaotic motion was transferred by the oxidation of the hydrocarbon into the famous products of dioxides and dihydroxides which have less ‘mass’ than the original ingredients and thus such defect is absorbed by the air being thrown so violently that emitting visible photons, the force that they lose on the imperfect transferences, they collide with the ‘stainless’ steel of the pan – fitting receptacle of this iron age which with its powerful metallic bonds promptly allow the violent motion of its tomic atoms without letting them go of their communal pools of electrons and therefore finally colliding with the milk above, and on the side, causing the generalized disturbance on its molecules which impelled to every direction at high velocity they bombard the proteins which are unable to keep their delicate structure of folded forms and being denatured they are useless to keep the vital processes of the animalcules on the milk.”. [18]

I am tempted to just go on and describe as thus instead of suffering a terrible intestinal infection at the direct harm or the competing of the foreign forms with my symbiotic microbiota I will drink with impunity the nutritive cadaver of the dead bacteria; or how just like it a long series of continuous chemical reactions eventually produced also, like every other biological structure, the genes which allow me to obtain the main nutrition by allowing the continuous production of the enzyme to hydrolyse the disaccharide into its two simple sugar rings – or the effects of mixing the hydrophobic chocolate in or the sublime homeostasis and all other ceaseless vital pathways of the metabolism dealing with such influx of new perturbations into the body.

---

[18] *Kaiho 1: 二: IV: κε.*

You can enjoy my long-winded artistic descriptions of reality in Kaiho; for now let us focus on the discussion at hand.

There was no ‘thermodynamic law’ since there exist no ‘heat energy’ to even follow such law; such magic terms do not provide ‘understanding’ of what happening and thus is not even a valid, or ‘good’, ‘explanation’ – and as we saw are completely unnecessary when the mere air colliding with the metal which collided with the milk describes the entire process with no space for any extraneous ‘heat energy’.

Just as no ‘law of hydrodynamics’ made the milk the mil convex and flow that way for some predefined behaviour inherent in it or on the universe; the collective behaviour has already been quite well described by René with “While the fact that they are generally going upwards revels no other reason that is not the greater resistance offered at every other direction, and thus the set creates a single effect without any ‘natural tendency of movement’ or special universal law designed just for such specific species of phenomenon as each act by itself following the path made less difficult by the placement of the surrounding bodies exerting force upon it.” – that is, facing similar pressures of its environment they were selected to form that structure.

Such ‘laws’, although hydrodynamics is not even called that anymore, are mere tools for engineering and not a description of reality; this long route to say that seems like a very pointless endeavour that we just took since modern Physics already accepts and declares such as mere tools – that ‘heat’ is a ‘virtual energy’ just as the ‘centrifugal force’ is a ‘virtual force’ and many others.

For one side there is the point that most of humankind is still stuck on denying, without a thought, the assertion that ‘cold does not exist’ and that even educated engineers and chemists, just as science communicators, love saying that ‘cold does not exist’ or ‘centrifugal force is not actual a force’, but still believe on the mystical fairy tales that ‘heat’ is ‘a thing’ and not just another ‘virtual force’ as a mere conceptual tool; and most ‘men of science’ nowadays still mindlessly assert absolute absurd as ‘the law of entropy’ as if some magical power that gives purpose and will to unanimated particles ‘explained’ anything – as was just made clear that no such divine power forcing things to a certain collective course is unreasonable, and much less necessary, when they all individually simply are selected from the surrounding pressures so that they converge on a same path with no intelligent design from god to ‘chaos and minimum amount of energy’.

The ‘laws of thermodynamic’ are merely a generalization and human tool to approximate the complex behaviour of a system composed of many small moving parts; they exist just as much as ‘heat’ does – a mere arbitrary concept for easy communication, but which has no counterpart, as a magical ‘force’ individual and independent from everything else, in actual reality.

We can see such admittance of magical powers is of no benefit, but rather hinders progress and truth, and it differs nothing on the Aristotelian model; and far from being so only to the ignorant masses or to negligent engineers this insidious worthless model permeates the very theoretical physicists who simply follow what they have always learnt and seek to ‘describing’ the world through magical intelligently designed laws and elementary species – both unnecessary and unjustifiable.

But more on that later.

As a sum, and another repetition, we have that the clumsy ‘laws’ of hydrodynamics and thermodynamics are wonderful engineering tools, but just so they also are nothing more than a tool; an illusion masking our chaotic ignorance, the unnecessary accounting of every particle or our incapacity to account for every detail of reality – it is an approximation and general behaviour of a set of particles which all experience a similar environment and thus individually behave nearly the same. But there is no ‘order’ or ‘law’, as some magic all-pervading ‘entropy’, guiding, or forcing, the collective mass to a certain state; the illusion of ‘heat’, and ‘laws’, is broken as soon as we truly describe the system and account for the causes of each of its parts.

That established from the basic parsimony and goodness of our criteria, and nowadays proved beyond doubt by brute force of observation, we can move on with the scene.

All that motion of the air, metal and milk came not from a sequence of heavy blows, which clearly from all established perfectly do heat things up, but by the ‘burning’ of the gas; even if ‘heat’ is just motion, where did that motion come from when the gas was so still? How did the carbon molecules by ‘reacting’ with the oxygen to form new molecules ‘produce’ all that ‘motion’?

Dalton naturally noticed exothermic reactions and his interesting description of them was that as two ‘atoms’ came together to form ‘another atom’ it would take on the specific heat on that other element; thus are combustion the forming of such new element, which god defined some specific amount of ‘caloric gas’ that it could hold, that release the extra gas from the fused atoms.

It is interesting because today we know that they form ‘molecules’ by means of ‘bonding’ on their electron shell and that the ‘heat-gas’ does not exist since that is just the macroscopic effect of the collective motion of such particles. How, then, do we explain that ‘energy of combustion’ being released?

We do not!

We have literally not deigned important enough to provide any theory or answer; for over a century that René has been proved right beyond doubt and physicist, and chemists, simply decided to quantify how much each combination releases without providing any explanation or reasoning for what is happening – the ‘gas’ is disproven, but they go on indoctrinating that ‘bonds store energy’ and that ‘the energy comes from bonds’ although if asked what that is ‘bond’ is just some placeholder magical concept with no element of reality corresponding to such energy storage.

Derek once upon a time was questioning people about that, as he made his toy models of magnetic atoms, and on Scishow he made the beautiful question of ‘How do bonds release energy? Where was store that energy of bonds?'; sadly lovely Hank exerted of his usual neutrality and tried to evade the question, even belittling its significance as pointless, instead of taking any stand.

I find this conclusion so very sad when to me it is so plain and obvious the answer; and not from the creation of some magical 'bond-entity' or new 'forces', but by pure necessity from what we have already admitted.

Yet, before I can just say it, we need to treat of the mechanisms of creation.

The atomists we so flatly denied at the beginning were actually right now that through René we have produced an explanation of how, or 'why', it is indeed a single thing, but as we saw we had no choice but to reject them since they provided no such explanation or justification for such radical parsimony – René, too, was right, however the proof only existed on this thinking mind[19] as his eventually credited it all on some laws intelligently designed by god for that purpose, the Aristotelian 'the cause of causes', so that[20], just the Intelligence of Laplace, it failed to produce even the most basic induction of why P(n+1) would be true of how could simpler parts produce more complex and 'so organized' ones.

They were right in eliciting the 'absolute determinism', as was Albert although even less justifiable, that is the simply requirement of 'necessity' from cause and effect or of 'logic', but relying on the same creationist ideas of intelligently designed 'laws' failed to provide a justifiable 'how'.

II – The Generalization Of The Method

'Life is brief, but art is macrous'[21], or the less faithful and more intelligible 'life is short, but science is long', is a famous line; and as most popular quotes it sounds as nice as shallow and it flows on without any further thought or consideration.

Someone who feel specially touched by it might give it thoughts and an 'explanation' of the weight of what is truly being said; perhaps by frustration at his own efforts at an answer he felt that:

---

[19] A wordplay on his laughable 'je pense, donc je suis' argument.

[20] "Car Dieu a ſi merveilleuſement établi ces Loix, qu'encore que nous ſuppoſions qu'il ne crée rien de plus que ce que i'ay dit, & même qu'il ne mette en cecy aucun ordre proportionné ; mais qu'il en compoſe vn cahos le plus confus & le plus embroüillé que les Poëtes puiſſent décrire, elles ſont ſuffiſantes pour faire que les parties de ce cahos ſe démélent d'elles-mêmes, & ſe diſpoſent en ſi bon ordre, qu'elles auront la forme d'un Monde tres-parfait."
– Traité du Monde et de la Lumière.

[21] "Ὁ βίος βραχὺς, ἡ δὲ τέχνη μακρὴ"
– Αφορισμοί, Aphorisms, I.

"This inert rock with its existence ridicules all my intellect and knowledge, but being deficient on my capacity of reasoning or ignorant I can only bow down and say that I know it not; the only possible answer and infinitely more useful and beautiful than to embrace the horrendous comfort of superstition with some magic explanation that justifies all ignorance as inevitable – in contrast to accepting my current incapacity of answering and adopt the logic path of investigating and question which allows that on the future someone contributes some more analysis beyond of what I went until when they will find out what was to me unknowable, although most still choose to condemn them into being acephalous beings confortable with their pernicious blindness solely for the very detriment of all future prospect to humankind.

Only those who seek find it; and what is neglected escapes – short as life is there is the next generation continuing the long art that a single one could not make."[22]

And such noblest sentiment of the sciences and the highest altruism to mankind is not seeing too much or giving too much credit to some 'sensationalist line'; it is indeed quite right and aligned with the more exact and extensive description of it.[23]

Yet that comes short to the extent of how much science also changes and shapes lives just as progress itself is forced upon us simply because 'not all things are good for us and thus only the most fit prosper while the less fit either dies or seek another niche'; this was said by Hippocrates over two millennia before this very same statement reformulated all biology and became the most important book ever written.

Or more exactly he said that 'the strong' can handle hard foods and environments while 'the weak' sought 'foods that are better for the body' and thus invented the art of medicine and other sciences[24]; which is rather unbelievable how he could so well state environmental pressures and the necessary result of that selection, but he kept that simply to his field of medicine and even with his knowledge of inheritance he failed to extend or deal upon it any longer.

---

[22] *Kaiho 1: 五: V: γ `.*

[23] "Ἰητρικῇ δὲ πάλαι πάντα ὑπάρχει, καὶ ἀρχὴ καὶ ὁδὸς εὑρημένη, καθ᾽ ἣν τὰ εὑρημένα πολλά τε καὶ καλῶς ἔχοντα εὕρηται ἐν πολλῷ χρόνῳ, καὶ τὰ λοιπὰ εὑρεθήσεται, ἤν τις ἱκανός τε ἐὼν καὶ τὰ εὑρημένα εἰδὼς ἐκ τούτων ὁρμώμενος ζητῇ. ὅστις δὲ ταῦτα ἀποβαλὼν καὶ ἀποδοκιμάσας πάντα, ἑτέρῃ ὁδῷ καὶ ἑτέρῳ σχήματι ἐπιχειρεῖ ζητεῖν, καί φησί τι ἐξευρηκέναι, ἐξηπάτηται καὶ ἐξαπατᾶται: ἀδύνατον γάρ: δι᾽ ἃς δὲ ἀνάγκας ἀδύνατον, ἐγὼ πειρήσομαι ἐπιδεῖξαι, λέγων καὶ ἐπιδεικνύων τὴν τέχνην ὅ τι ἐστίν."
– Περί αρχαίας ιητρικής, About Archaic Medicine, II, where he does say it with every word that 'art is built progressively by advances upon that which has already been made rather than by inventing new models ignoring everything already discovered'; truly the same as that beautiful interpretation and to me still the very role model of scientific sentiment.

[24] "Τὴν γὰρ ἀρχὴν οὔτ᾽ ἂν εὑρέθη ἡ τέχνη ἡ ἰητρικὴ οὔτ᾽ ἂν ἐζητήθη--οὐδὲν γὰρ αὐτῆς ἔδει-εἰ τοῖσι κάμνουσι τῶν ἀνθρώπων τὰ αὐτὰ διαιτωμένοισί τε καὶ προσφερομένοισι, ἅπερ οἱ ὑγιαίνοντες ἐσθίουσί τε καὶ πίνουσι καὶ τἄλλα διαιτέονται, συνέφερεν, καὶ μὴ ἦν ἕτερα τούτων βελτίω. νῦν δὲ αὐτὴ ἡ ἀνάγκη ἰητρικὴν ἐποίησεν ζητηθῆναί τε καὶ εὑρεθῆναι ἀνθρώποισι, ὅτι τοῖσι κάμνουσι ταὐτὰ προσφερομένοισι, ἅπερ οἱ ὑγιαίνοντες,

So the individual life is indeed short, but the cumulative changes developed by selection over a long time produces such long art; the modern degree of perfection did not always exist, but came gradually through many less perfect forms.

Another one of his so radical and mind-blowing insights is that ‘some say that it is impossible to do medicine without first knowing what man is’; and so he replies that the statement of philosophers about ‘what man is and his origins’ have even less to do with the really of nature – that ‘one cannot ascertain anything about nature from anywhere else but from medicine’ and that we will know the answer to those only when we indeed attain comprehension over the entire field of medicine.[25]

οὐ συνέφερεν, ὡς οὐδὲ νῦν συμφέρει. ἔτι δὲ ἄνωθεν ἔγωγε ἀξιῶ οὐδ᾽ ἂν τὴν τῶν ὑγιαινόντων δίαιτάν τε καὶ τροφήν, ᾗ νῦν χρέονται, εὑρεθῆναι, εἰ ἐξήρκει τῷ ἀνθρώπῳ ταὐτὰ ἐσθίοντι καὶ πίνοντι βοΐ τε καὶ ἵππῳ καὶ πᾶσιν ἐκτὸς ἀνθρώπου, οἷον τὰ ἐκ τῆς γῆς φυόμενα, καρπούς τε καὶ ὕληνν καὶ χόρτον. ἀπὸ τούτων γὰρ καὶ τρέφονται καὶ αὔξονται καὶ ἄπονοι διάγουσιν οὐδὲν προσδεόμενοι ἄλλης διαίτης. καί τοι τήν γε ἀρχὴν ἔγωγε δοκέω καὶ τὸν ἄνθρωπον τοιαύτῃ τροφῇ κεχρῆσθαι. τὰ δὲ νῦν διαιτήματα εὑρημένα καὶ τετεχνημένα ἐν πολλῷ χρόνῳ γεγενῆσθαί μοι δοκεῖ. ὡς γὰρ ἔπασχον πολλά τε καὶ δεινὰ ὑπὸ ἰσχυρῆς τε καὶ θηριώδεος διαίτης ὠμά τε καὶ ἄκρητα καὶ μεγάλας δυνάμιας ἔχοντα ἐσφερόμενοι. οἷά περ ἂν καὶ νῦν ὑπ᾽ αὐτῶν πάσχοιεν πόνοισί τε ἰσχυροῖσι καὶ νούσοις περιπίπτοντες καὶ διὰ τάχεος θανάτοισι. ἧσσον μὲν οὖν ταῦτα τότε εἰκὸς ἦν πάσχειν διὰ τὴν συνήθειαν, ἰσχυρῶς δὲ καὶ τότε. καὶ τοὺς μὲν πλείστους τε καὶ ἀσθενεστέρην φύσιν ἔχοντας ἀπόλλυσθαι εἰκός, τοὺς δὲ τούτων ὑπερέχοντας πλείω χρόνον ἀντέχειν: ὥσπερ καὶ νῦν ἀπὸ τῶν ἰσχυρῶν βρωμάτων οἱ μὲν ῥηϊδίως ἀπαλλάσσονται, οἱ δὲ μετὰ πολλῶν πόνων τε καὶ κακῶν. διὰ δὴ ταύτην τὴν αἰτίην καὶ οὗτοί μοι δοκέουσι ζητῆσαι τροφὴν ἁρμόζουσαν τῇ φύσει καὶ εὑρεῖν ταύτην, ᾗ νῦν χρεώμεθα. ἐκ μὲν οὖν τῶν πυρῶν βρέξαντές σφας καὶ πτίσαντες καὶ καταλέσαντές τε καὶ διασήσαντες καὶ φορύξαντες καὶ ὀπτήσαντες ἀπετέλεσαν ἄρτον, ἐκ δὲ τῶν κριθέων μᾶζαν: ἄλλα τε πολλὰ περὶ ταῦτα πρηγματευσάμενοι ἥψησάν τε καὶ ὤπτησαν καὶ ἔμιξαν, καὶ ἐκέρασαν τὰ ἰσχυρά τε καὶ ἄκρητα τοῖς ἀσθενεστέροις, πλάσσοντες πάντα πρὸς τὴν τοῦ ἀνθρώπου φύσιν τε καὶ δύναμιν, ἡγεύμενοι, ὅσα μὲν ἂν ἰσχυρότερα ᾖ ἢ δυνήσεται κρατεῖν ἡ φύσις, ἢν ἐμφέρηται, ἀπὸ τούτων δ᾽ αὐτῶν πόνους τε καὶ νούσους καὶ θανάτους ἔσεσθαι, ὁπόσων δ᾽ ἂν δύνηται ἐπικρατεῖν, ἀπὸ τούτων τροφήν τε καὶ αὔξησιν καὶ ὑγιείην. τῷ δὲ εὑρήματι τούτῳ καὶ ζητήματι τί ἄν τις ὄνομα δικαιότερον ἢ προσῆκον μᾶλλον θείη ἢ ἰητρικήν; ὅτι γε εὕρηται ἐπὶ τῇ τοῦ ἀνθρώπου ὑγιείῃ τε καὶ σωτηρίῃ καὶ τροφῇ, ἄλλαγμα ἐκείνης τῆς διαίτης, ἐξ ἧς οἱ πόνοι καὶ νοῦσοι καὶ θάνατοι ἐγίνοντο.”
– Περί αρχαίας ιητρικής, About Archaic Medicine, III.

[25] “Λέγουσι δέ τινες ἰητροὶ καὶ σοφισταί, ὡς οὐκ εἴη δυνατὸν ἰητρικὴν εἰδέναι ὅστις μὴ οἶδεν ὅ τί ἐστιν ἄνθρωπος. ἀλλὰ τοῦτο δεῖ καταμαθεῖν τὸν μέλλοντα ὀρθῶς θεραπεύσειν τοὺς ἀνθρώπους. τείνει δὲ αὐτοῖς ὁ λόγος ἐς φιλοσοφίην, καθάπερ Ἐμπεδοκλῆς ἢ ἄλλοι οἳ περὶ φύσιος γεγράφασιν ἐξ ἀρχῆς ὅ τί ἐστιν ἄνθρωπος, καὶ ὅπως ἐγένετο πρῶτον καὶ ὁπόθεν συνεπάγη. ἐγὼ δὲ τοῦτο μέν, ὅσα τινὶ εἴρηται ἢ σοφιστῇ ἢ ἰητρῷ ἢ γέγραπται περὶ φύσιος, ἧσσον νομίζω τῇ ἰητρικῇ τέχνῃ προσήκειν ἢ τῇ γραφικῇ. νομίζω δὲ περὶ φύσιος γνῶναί τι σαφὲς οὐδαμόθεν ἄλλοθεν εἶναι ἢ ἐξ ἰητρικῆς: τοῦτο δὲ οἷόν τε καταμαθεῖν, ὅταν αὐτήν τις τὴν ἰητρικὴν ὀρθῶς περιλάβῃ: μέχρι δὲ τούτου πολλοῦ μοι δοκεῖ δεῖν: λέγω δὲ ταύτην τὴν ἱστορίην εἰδέναι,

Such most stunning questions have indeed been answered by the understanding of the natural work and its history; and indeed we can obtain an easy victory on every other field[26] because we for a long time had the answer before us.

Knowing the origin of the mammalian brain and the exact neurological mechanisms of its behaviour finally gave us the way to understand the subjects of economics, politics and social behaviour; the archaic metaphysical madness of psychology and ten thousand other 'non-exact' fields are well over-due and proved to be entirely meaningless as works of fiction flying far from any reality and certainty – since Chemistry is just a small part of Physics and Biology a small part of Chemistry where humans are a very tiny fraction of that biology and all their subjects are a produce of that biological machinery they are, yet 'they go on as if Robert had never existed'[27].

ἄνθρωπος τί ἐστιν καὶ δι᾽ οἵας αἰτίας γίνεται καὶ τἄλλα ἀκριβέως. ἐπεὶ τοῦτό γέ μοι δοκεῖ ἀναγκαῖον εἶναι ἰητρῷ περὶ φύσιος εἰδέναι καὶ πάνυ σπουδάσαι ὡς εἴσεται"
– Περί αρχαίας ιητρικής, About Archaic Medicine, XX.

[26] "'Tis evident, that all the sciences have a relation, greater or less, to human nature; and that however wide any of them may seem to run from it, they still return back by one passage or another.
...
Here then is the only expedient, from which we can hope for success, in our philosophical researches, to leave the tedious lingring method, which we have hitherto followed, and instead of taking now and then a castle or village on the frontier, to march uo directly to the capital or center of these sciences, to human nature itself; which being once masters of, we may every where else hope for an easy victory."
– A Treatise of Human Nature.

[27] "Philosophy and the subjects known as 'humanities' are still taught almost as if Darwin had never lived."
– The Selfish Gene I.

"Es ist nicht Vermehrung, sondern Verunstaltung der Wissenschaften, wenn man ihre Grenzen ineinander laufen läßt"
– Kritik der reinen Vernunft, Critic of Pure Logic, Preface II, where so well he presents the worthlessness of all such metaphysical unrealities as the subjects he treads in; saying 'it is not a contribution, but a disfiguring, of science to allow its border to overflow thus one to the other'. Defending his arbitrary inexistent borders for so shamelessly 'abolish knowledge in order to leave space for faith', as he says little after describing as the 'physical world' has to be seen as simply a complement and be conformed to those 'higher feelings of the spiritual reality' that he feel to be true inside of him:
"Es ist hiermit ebenso, als mit den ersten Gedanken des Kopernikus bewandt, der, nachdem es mit der Erklärung der Himmelsbewegungen nicht gut fort wollte, wenn er annahm, das ganze Sternenheer drehe sich um den Zuschauer, versuchte, ob es nicht besser gelingen möchte, wenn er den Zuschauer sich drehen, und dagegen die Sterne in Ruhe ließ. In der Metaphysik kann man nun, was die Anschauung der Gegenstände betrifft, es auf ähnliche Weise versuchen. Wenn die Anschauung sich nach der Beschaffenheit der Gegenstände richten müßte, so sehe ich nicht ein, wie man a priori von ihr etwas wissen könne; richtet sich aber der Gegenstand (als Objekt der Sinne) nach der Beschaffenheit unseres Anschauungsvermögens, so kann ich mir diese Möglichkeit ganz wohl vorstellen.
...

When we consider our ignorance about if theories are even sufficient to explain or which is less imprecise we can still judge how ‘good’ it is by seeing what is the consequence and results of accepting each; to what understanding or utility could one have over the other.

Hippocrates was a man faithful to the gods and baselessly believed the fairy tales, but even then when acquiring exact knowledge about the human body he saw that it was both unnecessary to attribute some things to the gods as it was right down impossible since it all occurred perfectly with no role for the mystical power to play on the process.

He might have heard the phrase that ‘he died because his time had come’; which as a believer he could accept as an explanation until the point he acquired knowledge – for knowledge is power.

If he were to open the body he could find ‘something strange’ on the liver or veins so to determinate that part of the body is vital and that its failure led to death; and that such failure too was obviously caused by that substance or harm that the body was subjected too so that by avoiding it one too will live on longer and healthier.

Another common line today is that ‘god wanted another angel in heaven’, but what Hippocrates asserts, at some superstition that some god caused impotence if not worshipped properly, is that ‘this disease is just as divine as every other is, because no disease is more divine or more human than any other, and none arise but from a natural cause’[28].

He made the very bold assertion that all diseases come from a ‘natural cause’; even when he was so ignorant and there are so many diseases around the world that he did not know – just as today there are so many we still do not know and so many yet unknowable since they are yet to come into existence.

But who of us would deny that he is right?

We can assert about what we know not and give no detail about any disease, but still have a good theory and be right on asserting so; since it is a ‘good’ assertion.

Ich mußte also das Wissen aufheben, um zum Glauben Platz zu bekommen.”.

It is quite like all these others creationist ideas of ‘elements’ seen before and attribution to magic entities as an ‘explanation’, but simply much more explicitly done; whose worthlessness and ‘no goodness’, the ‘invalidity’ as some accept theory, have been clearly discussed thus far.

[28] “οἱ μὲν οὖν ἐπιχώριοι τὴν αἰτίην προστιθέασι θεῷ καὶ σέβονται τούτους τοὺς ἀνθρώπους καὶ προσκυνέουσι, δεδοικότες περὶ ἑωυτῶν ἕκαστοι. ἐμοὶ δὲ καὶ αὐτῷ δοκεῖ ταῦτα τὰ πάθεα θεῖα εἶναι καὶ τἄλλα πάντα καὶ οὐδὲν ἕτερον ἑτέρου θειότερον οὐδὲ ἀνθρωπινώτερον, ἀλλὰ πάντα ὁμοῖα καὶ πάντα θεῖα. ἕκαστον δὲ αὐτῶν ἔχει φύσιν τὴν ἑωυτοῦ καὶ οὐδὲν ἄνευ φύσιος γίνεται.”
– Περί αέρων, υδάτων, τόπων, Sobre Ar, Água e Terra, XXII.

Asserting otherwise, that is admitting that 'his time has come' and such 'divine causes', meant having that 'comforting answer', although it answers nothing and does not teach us anything, that as we saw is no good; accepting it forever traps us below the yoke of such torment and far from only 'not being good' it is directly harmful to all who accept it and the very future of humankind. Not only there is no reason to admit or suppose such fantasy; as doing so would cause only our harm.

Thus nothingness would be better than it, that is simply admitting ignorance and rejecting the proposal with no 'counter-explanation'; and his proposal that there is a cause that we must find, even with no 'proof' or argument giving a reason, is already an amazing theory for instead of the 'answer' it provides a 'method' – it leads to knowledge, and its power, and it is thus the choice we are forced to take, until it is proved to be wrong and thus a harmful pursuit of unreality.

Another still very common popular belief is on the same magical being also causing natural disasters; where exactly the same argument can be used to reject the 'theories' be it from their baselessness on any evidence or from the very harm of adopting fantasies as reality – the harm of both being unprepared[29] to deal with problems as of directly rejecting help as the false feeling of safety and understanding makes them irrationally attack all who doubt and question.

The cause of misery is the very system of belief they decided to follow; "whence do come all relentless raging of sickness and disasters found on the barbarous notions out sphere of civilization? From the soil, sky and their bodies? Is it because of our soil being good and theirs worthless; from our climate bless us with the abundance from the heavenly coffers and curse them with scarcity and disaster – from us having a fine pedigree in our holy pure blood and they having that of inferior sub-human races? Far from such fallacies; the only difference is the state of development in our arts of the scientific.".[30]

---

[29] "Our existence today is a demonstration of our resistance, and I think knowledge will increase the resilience of the people in the world."
– says one of the survivors of the recent eruption of Tonga on the documentary of Nova PBS about such; since they began to ran yelling 'tsunami' knowing what was to come and so there was a high rate of survivors, survivors who say 'we lost all we had, but we have what matters most that is our lives', since they dutifully teach the children the knowledge of what to do if a tremor or eruption happens.

The narrator concludes the documentary saying 'Being ready is Tonga's lesson for the rest of the planet' and indeed the scientific mindset is found all around the world, but the plague of mindless 'beliefs' as religions still rule the mind of most with superstitions and our very 'science' is still deeply rooted on such magical 'explanations'.

[30] "Rursus (si placet) reputet quipiam, quantum intersit inter hominum vitam in excultissima quapiam Europae provincia, et in regione aliqua Novae Indiae maxime fera et barbara: ea tantum differre existimabit, ut merito hominem homini Deum esse, non solum propter auxilium et beneficium, sed etiam per status comparationem,

The mere analysis of the theory shows us the most disturbing and undesirable of imagery; that is a clear reason why one would quickly deny to follow such, but that is leaving our point that is merely the seeking of 'truth'.

But mentioning horrible apocalyptic disasters[31] leads us straight to a man with some capacity to link a chain of causes to a certain effect was Malthus; so that he could easily show how some apparent good action, as the British law giving money to the poor, was actually a very bad one – cruelty

---

recte dici possit. Atque hoc non solum, non coelum, non corpora, sed artes praestant."
– Novum Organum Unus CXXIX.

[31] Merely mentioning hardly awakens any imagery or urgency, so here is the very powerful description of Robert about the effects of an earthquake:

"After viewing Concepcion, I cannot understand how the greater number of inhabitants escaped unhurt. The houses in many parts fell outwards ; thus forming in the middle of the streets little hillocks of brickwork and rubbish. Mr. Rous, the English consul, told us that he was at breakfast when the first movement warned him to run out. He had scarcely reached the middle of the courtyard, when one side of his house came thundering down. He retained presence of mind to remember, that if he once got on the top of that part which had already fallen, he should be safe. Not being able, from the motion of the ground, to stand, he crawled up on his hands and knees ; and no sooner had he ascended this little eminence, than the other side of the house fell in, the great beams sweeping close in front of his head. With his eyes blinded, and his mouth choked with the cloud of dust which darkened the sky, at last he gained the street. As shock succeeded shock, at the interval of a few minutes, no one dared approach the shattered ruins ; and no one knew whether his dearest friends and relations might not be perishing from the want of help. The thatched roofs fell over the fires, and flames burst forth in all parts. Hundreds knew themselves to be ruined, and few had the means of providing food for the day. Can a more miserable and fearful scene be imagined?

...

Pools of salt water yet remained in the streets ; and children, making boats with old tables and chairs, appeared as happy as their parents were miserable.

...

A bad earthquake at once destroys the oldest associations : he world, the very emblem of all that is solid, has moved beneath our feet like a crust over a fluid ;— one second of time has conveyed to the mind a strange idea of insecurity, which hours of reflection would never have created.

...

Earthquakes alone are sufficient to destroy the prosperity of any country. If, for instance, beneath England, the now inert subterranean forces should exert those powers which most assuredly in former geological ages they have exerted, how completely would the entire condition of the country be changed! What would become of the lofty houses, thickly-packed cities, great manufactories, the beautiful public and private edifices? If the new period of disturbance were first to commence by some great earthquake in the dead of the night, how terrific would be the carnage! England would at once be bankrupt ; all papers, records, and accounts would from that moment be lost. Government being unable to collect the taxes, and failing to maintain its authority, the hand of violence and rapine would go uncontrolled In every large town famine would be proclaimed, pestilence and death following in its train."
– Voyages of the Adventure and Beagle III: XVI.

hidden in ignorance that lead simply to a general degradation of the social state of those very poor rather than helping them.

He is most famous for how he could foresee, very real and exact, catastrophes that would come from their current policies and behaviour; quite like today and our climate crisis, he defined unsustainability centuries before our current state – and how sweet his critic as he saw the birth of democracy happening, a truly awful and unsustainable system quite responsible for most of our problems today.

But let us leave it at that; I have a giant scene about him on Kaiho and there I treat of more specific niches, the consequences of this theory, as on politics, economics and morality. Here I shall deal simply with the 'truth' or 'validity' of it, as well as its very presentation, not of its infinitely many consequences and applications.

So of Malthus we will rush the conclusion of his great scene; which last paragraph finishes it on lines akin to 'And this is the true terror of Malthusian pessimism'. Since today he is mostly criticized very vainly for 'his failure in predicting the industrial revolution', which simply postponed the numerical limit to his doom scenarios, but far from invalidating his claims.

And while most of it holds on the aspect of unsustainable policies, I here will resume the scene into one simple comparison between the core idea that permeates all of his conclusions.

He directly mentioned the inefficiency of cattle on its usage of land, even before it was known that their accursed microbiota produces methane, but let is pass by simply saying that 'it is inefficient, but the manure is necessary for the plantation to produce well' without any of his loved numerical analyses of how could that possibly be worth the food it took for them to produce that manure. But what is made clear is his obvious knowledge of manuring; a technique known from pre-history. Just as the burning of fields and the leaving of plant matter on the soil were well known to be good fertilizers; while the more advanced technique of crops rotations had had several advancement by his time.

A child can tell that there has some common factor on all these things which are beneficial to plants; some 'fertilizing element' – and by his time many such alchemical reductions and elements had been found, Dalton releasing his work during his lifetime.

To a smart man who could see beyond apparent 'good actions' and chain several necessary consequences to arrive at some complex effect it should be a fair easy link to make; even more when his life was dedicated to such a cause of denouncing future dangers and how to better make policies to reduce them.

Yet, he did not.

In fact he flat out denied any possibility of such a thing.

His answer to the ‘meaning of life’ was already set on his baseless beliefs and he denied that anything, but the might of the creator, could make seeds germinate; it was unconceivable to his mind that ‘the powers of selection, combination, and transmutation, which every seed shews, are truly miraculous. Who can imagine that these wonderful faculties are contained in these little bits of matter? To me it appears much more philosophical to suppose that the mighty God of nature is present in full energy in all these operations. To this all powerful Being, it would be equally easy to raise an oak without an acorn as with one.’.[32]

---

[32] “The powers of selection, combination, and transmutation, which every seed shews, are truly miraculous. Who can imagine that these wonderful faculties are contained in these little bits of matter? To me it appears much more philosophical to suppose that the mighty God of nature is present in full energy in all these operations. To this all powerful Being, it would be equally easy to raise an oak without an acorn as with one. The preparatory process of putting seeds into the ground is merely ordained for the use of man, as one among the various other excitements necessary to awaken matter into mind. It is an idea that will be found consistent, equally with the natural phenomena around us, with the various events of human life, and with the successive revelations of God to man, to suppose that the world is a mighty process for the creation and formation of mind. Many vessels will necessarily come out of this great furnace in wrong shapes. These will be broken and thrown aside as useless; while those vessels whose forms are full of truth, grace, and loveliness, will be wafted into happier situations, nearer the presence of the mighty maker.”
– An Essay on the Principle of Population XII.

“The necessity of food for the support of life, gives rise, probably, to a greater quantity of exertion, than any other want, bodily or mental. The Supreme Being has ordained, that the earth shall not produce food in great quantities, till much preparatory labour and ingenuity has been exercised upon its surface. There is no conceivable connection to our comprehensions, between the seed, and the plant, or tree, that rises from it. The Supreme Creator might, undoubtedly, raise up plants of all kinds, for the use of his creatures, without the assistance of those little bits of matter, which we call seed, or even without the assisting labour and attention of man. The processes of ploughing and clearing the ground, of collecting and sowing seeds, are not surely for the assistance of God in his creation; but are made previously necessary to the enjoyment of the blessings of life, in order to rouse man into action, and form his mind to reason.”
– An Essay on the Principle of Population XVIII, where he exemplifies that ‘if a barbarian felt no hunger or cold, or any necessity, it would lay down under a tree forever with no stimuli to rouse him to action’; so that all of life and the world was a little playground to ‘prepare people and select those apt to live with god forever’.

Bacon was also a cultist with his mind ruled by the very same Teather Idol, but how much more advanced was the disease in Malthus when compare to the scientific statements of Bacon: “Upon inquiring about something one must seek how it initiates, in what mode, by which process, and how are generated the metals of the earth and the herbs or how by seeds are formed the plants by means of a succession of motions and how nature with a diverse and continuous motion forms the animals and all else.”.

“At secundum genus axiomatis (quod a latentis processus inventione pendet) non per naturas simplices procedit, sed per concreta corpora, quemadmodum in natura inveniuntur, cursu ordinario. Exempli gratia; in casu ubi fit inquisitio, ex quibus initiis, et quo modo, et quo processu, aurum aut aliud quodvis metallum aut lapis generetur, a primis menstruis aut rudimentis suis usque ad mineram perfectam; aut similiter, quo processu herbae generentur, a primis concretionibus succorum in terra, aut a seminibus, usque ad plantam

That is, the true terror of Malthusian pessimism is his preconceived believes which doomed its believers to forever suffer the 'inevitable tragedies of nature'; that we should just accept the fate of our health or of the 'invincible' 'nature' – the terror 'unfounded because he failed to predict the industrial revolution', but that he did fail so exactly because of his belief in fairy tales that led him to deny all science and progress since we are in eternal submission to the ordeals from his psychopathic deity.

Nowadays we have knowledge about cells which compose every living being and the exact mechanical molecular processes that cause life; that 'disease' and 'death' is nothing more than some error and disturbance which hinders these processes to happen – just as the growing of plants in indeed encoded entirely within the seed, with gigantic space to spare, and that part of its elementary building blocks, as nitrogen mainly on that example, are found in fertilizers allow it to easily develop.

But remember our goal; it is not brute force or 'proving' that one was right or wrong – it is justifying why, even without such modern 'proof', we could, even in ignorance of reality, take one side or the other.

Even with all grace giving the status of 'sufficient' to all we could still judge one as 'good' and other as 'bad'; and we could see that some were plainly 'bad' and admitting ignorance of any explanation would be the better choice than some meaningless 'answer' that provides no 'understanding'.

These considered now, however, were of a different kind than the merely superior logical reduction of René.

They did not deal with some specific phenomenon or even provided an 'answer' to something already known.

If we adopt that beautiful assertion of Hippocrates, does it answer us what cancer is? Or what tuberculosis is? Covid has raged on all around me due to our filthy political system, but does Hippocrates answer us what Covid is? Does he provides us with the said 'understanding'; which leads is knowledge which is power – can we treat then Covid with his theory and solve the question?

To all of those he would simply repeat the statement; 'it has a natural cause'. It does not give us knowledge, really, but it differs from the divine attributions and beliefs because it affirms quite the opposite of them; it is not a dead-end and justification for ignorance by placing it into the realm of the unknowable – instead it spurs us forth to go there and find that cause.

---

formatam, cum universa illa successione motus, et diversis et continuatis naturae nixibus; similiter, de generatione ordinatim explicata animalium, ab initu ad partum; et similiter de corporibus aliis."
– Novum Organum Duo V, onde fala do axioma de pesquisa.

It does not accommodate, but leads us to understanding.

It is much more abstract and un-provable than some specific answer, as that of René, but it is also much more powerful; indeed it is a generalization of our method and it leads to the exact description of reality as we go on the discovery of the specific processes involved.

With this generalization of how to go in deeper and even without the exact description provide a perfectly good theory let us investigate on in how the assumption of the exact method is the ‘right’ choice in the face of the uncertain or un-provable; how it is indeed the only choice we can take for it is the only that leads to the best eventual result – I will now go on justifying something ubiquitously accepted by all science, rather than discussing on why something is denied, so enjoy the subject you most certainly must be very familiar with and that most exemplifies the ‘debate’ of ‘science versus religion’ today.

III – The History Of Nature

It is impossible to convey how knowledgeable Aristotle was concerning the anatomy of so many animals and their behaviours to someone how has not spent days reading his hundreds of pages on the theme.

He described the radula of octopuses and how it was perfectly adapted for its prey and the hole on the shells were made with so much precision that they could always be found on the same place and show that they were eaten by an octopus; just as he described the five tooth and interior of sea urchins – and how whales and dolphins differed too much to be classed as fish.

And so he went on how the animals moved and classing them all based on that; on how animals reproduced, and classing them all based on that – on their bodily structures, habit, environment and longevity as means of characterizing them in groups.

During the entire time I was saddened as I wondered why did he not produce a microscope; lenses were already known and it was so possible. What wonderful descriptions could he produce if he observed cells and the entire biota literally under, and all around, his nose; and besides such observations that could surpass Leeuwenhoek, what would he theorize and use to explain all those structures and organelles present through all life?

It was as interesting as sad to think about that which never happened; and how after dedicating so much of his life to learning about the natural world he died in ignorance of the most ubiquitous and fundamental living things.

He observed that as a boat came from somewhere else it had to be washed thoroughly, otherwise the mud that it brought ‘would spontaneously generate the different kind of clams from that other area and become a pest’; he literally described nature as a battleground between every species and rather than in balance they were in fierce competition – and he gives us not only the common understanding of heredity, but even of atavism of how a trait cannot appear on the direct offspring only to appear later on.[33]

Perhaps he would see the eggs on the mud, but even then if he could not suppose the existence of eggs he probably would just move the supposition of spontaneous generation to those smaller beings, as he postulated that those magical muds from each place were the work of the gods and when that competition lead to the extinction of some animal it would be repopulated by the same divine power that made them; heredity was a mere curiosity and to him all that competition, variability and inheritance were of no real consequence – and their perfect bodily structures and behaviours was just ‘more proof’ of the gift of the gods so intelligently designing each being for its ‘function in nature’ eternally unchangeable as everything had been made.[34]

---

[33] “Γίνονται δὲ καὶ ἐξ ἀναπήρων ἀνάπηροι, οἷον ἐκ χωλῶν χωλοὶ καὶ τυφλῶν τυφλοί, καὶ ὅλως τὰ παρὰ φύσιν ἐοικότες πολλάκις, καὶ σημεῖα ἔχοντες συγγενῆ, οἷον φύματα καὶ οὐλάς. Ἤδη δ' ἀπέδωκε τῶν τοιούτων τι καὶ διὰ τριῶν, οἷον ἔχοντός τινος στίγμα ἐν τῷ βραχίονι ὁ μὲν υἱὸς οὐκ ἐγένετο ὁ δ' υἱιδοῦς ἔχων ἐν τῷ αὐτῷ τόπῳ συγκεχυμένον μέλαν.

Ὀλίγα μὲν οὖν γίνεται τὰ τοιαῦτα, τὰ δὲ πλεῖστα γίνεται ὁλόκληρα ἐκ κολοβῶν, καὶ οὐδὲν ἀποτέτακται τούτων. Καὶ ἐοικότες δὲ τοῖς γεννήσασιν ἢ τοῖς ἄνωθεν γονεῦσιν, ότὲ δ' οὐδὲν οὐδενί. Ἀποδίδωσι δὲ καὶ διὰ πλειόνων γενῶν, οἷον ἐν Σικελίᾳ ἡ τῷ Αἰθίοπι μοιχευθεῖσα· ἡ μὲν γὰρ θυγάτηρ ἐγένετο οὐκ Αἰθίοψ, τὸ δ' ἐκ ταύτης.”

– Των Περί τα Ζώα Ιστοριών, About The History of Animals, VII: 6, where he is indeed wrong in the case of the mutilation, but notices true atavism of how the son of a black man and a white woman was white while the son of that white was black.

“Αἱ δ' αὐταὶ αἰτίαι καὶ τοῦ τὰ μὲν ἐοικότα γίγνεσθαι τοῖς τεκνώσασι τὰ δὲ μὴ ἐοικότα, καὶ τὰ μὲν πατρὶ τὰ δὲ μητρὶ κατά τε ὅλον τὸ σῶμα καὶ κατὰ μόριον ἕκαστον, καὶ μᾶλλον αὐτοῖς ἢ τοῖς προγόνοις, καὶ τούτοις ἢ τοῖς τυχοῦσι, καὶ τὰ μὲν ἄρρενα μᾶλλον τῷ πατρὶ τὰ δὲ θήλεα τῇ μητρί, τὰ δ' οὐθενὶ τῶν συγγενῶν ὅμως δ' ἀνθρώπῳ γέ τινι, τὰ δ' οὐδ' ἀνθρώπῳ τὴν ἰδέαν ἀλλ' ἤδη τέρατι. καὶ γὰρ ὁ μὴ ἐοικὼς τοῖς γονεῦσιν ἤδη τρόπον τινὰ τέρας ἐστίν· παρεκβέβηκε γὰρ ἡ φύσις ἐν τούτοις ἐκ τοῦ γένους τρόπον τινά.”

– Περί ζώων γενέσεως, About The Generation of Animals, IV: 3, he describes as a son looks very much like his parents and a little less as his grandparents and a little less still to his great grandparents, but still much closer to them than to some unrelated stranger; although he insanely denies the biological transfer of such information, as the semen theory of Democritus, and rather says that the only explanation is that their life-force and soul carries on those inheritable factors.

[34] “ἀλλ᾽, ὦ Σώκρατες, ἔφη, οὐ φθονήσω: ἀλλὰ πότερον ὑμῖν, ὡς πρεσβύτερος νεωτέροις, μῦθον λέγων ἐπιδείξω ἢ λόγῳ διεξελθών;

πολλοὶ οὖν αὐτῷ ὑπέλαβον τῶν παρακαθημένων ὁποτέρως βούλοιτο οὕτως διεξιέναι. δοκεῖ τοίνυν μοι, ἔφη, χαριέστερον εἶναι μῦθον ὑμῖν λέγειν.

ἦν γάρ ποτε χρόνος ὅτε θεοὶ μὲν ἦσαν, θνητὰ δὲ γένη οὐκ ἦν. ἐπειδὴ δὲ καὶ τούτοις χρόνος ἦλθεν εἱμαρμένος γενέσεως, τυποῦσιν αὐτὰ θεοὶ γῆς ἔνδον ἐκ γῆς καὶ πυρὸς μείξαντες καὶ τῶν ὅσα πυρὶ καὶ γῇ κεράννυται. ἐπειδὴ δ᾽ ἄγειν αὐτὰ πρὸς φῶς ἔμελλον, προσέταξαν Προμηθεῖ καὶ Ἐπιμηθεῖ κοσμῆσαί τε καὶ νεῖμαι δυνάμεις ἑκάστοις ὡς πρέπει. Προμηθέα δὲ παραιτεῖται Ἐπιμηθεὺς αὐτὸς νεῖμαι, ‘νείμαντος δέ μου,’

He talks about how there are too many seeds and eggs so that it would be impossible for them all to germinate and grow, be it for the lack of space or of food; and so they are ‘at war’ not only against as on the pursuit of prey and the defenes against the hunter, but also the inter-species competition for resources that lead to ‘the motivation of each other to always strive at their utmost’[35] – all that just strengthen his faith as the divided hoof of animals were found on those with

---

ἔφη, ‘ἐπίσκεψαι:’ καὶ οὕτω πείσας νέμει. νέμων δὲ τοῖς μὲν ἰσχὺν ἄνευ τάχους προσῆπτεν, τοὺς δ᾽ ἀσθενεστέρους τάχει ἐκόσμει: τοὺς δὲ ὥπλιζε, τοῖς δ᾽ ἄοπλον διδοὺς φύσιν ἄλλην τιν᾽ αὐτοῖς ἐμηχανᾶτο δύναμιν εἰς σωτηρίαν. ἃ μὲν γὰρ αὐτῶν σμικρότητι ἤμπισχεν, πτηνὸν φυγὴν ἢ κατάγειον οἴκησιν ἔνεμεν: ἃ δὲ ηὖξε μεγέθει, τῷδε αὐτῷ αὐτὰ ἔσῳζεν: καὶ τἆλλα οὕτως ἐπανισῶν ἔνεμεν. ταῦτα δὲ ἐμηχανᾶτο εὐλάβειαν ἔχων μή τι γένος ἀϊστωθείη: ἐπειδὴ δὲ αὐτοῖς ἀλληλοφθοριῶν διαφυγὰς ἐπήρκεσε, πρὸς τὰς ἐκ Διὸς ὥρας εὐμάρειαν ἐμηχανᾶτο ἀμφιεννὺς αὐτὰ πυκναῖς τε θριξὶν καὶ στερεοῖς δέρμασιν, ἱκανοῖς μὲν ἀμῦναι χειμῶνα, δυνατοῖς δὲ καὶ καύματα, καὶ εἰς εὐνὰς ἰοῦσιν ὅπως ὑπάρχοι τὰ αὐτὰ ταῦτα στρωμνὴ οἰκεία τε καὶ αὐτοφυὴς ἑκάστῳ: καὶ ὑποδῶν τὰ μὲν ὁπλαῖς, τὰ δὲ θριξὶν καὶ δέρμασιν στερεοῖς καὶ ἀναίμοις. τοὐντεῦθεν τροφὰς ἄλλοις ἄλλας ἐξεπόριζεν, τοῖς μὲν ἐκ γῆς βοτάνην, ἄλλοις δὲ δένδρων καρπούς, τοῖς δὲ ῥίζας: ἔστι δ᾽ οἷς ἔδωκεν εἶναι τροφὴν ζῴων ἄλλων βοράν: καὶ τοῖς μὲν ὀλιγογονίαν προσῆψε, τοῖς δ᾽ ἀναλισκομένοις ὑπὸ τούτων πολυγονίαν, σωτηρίαν τῷ γένει πορίζων. ἅτε δὴ οὖν οὐ πάνυ τι σοφὸς ὢν ὁ Ἐπιμηθεὺς ἔλαθεν αὑτὸν καταναλώσας τὰς δυνάμεις εἰς τὰ ἄλογα: λοιπὸν δὴ ἀκόσμητον ἔτι αὐτῷ ἦν τὸ ἀνθρώπων γένος, καὶ ἠπόρει ὅτι χρήσαιτο. ἀποροῦντι δὲ αὐτῷ ἔρχεται Προμηθεὺς ἐπισκεψόμενος τὴν νομήν, καὶ ὁρᾷ τὰ μὲν ἄλλα ζῷα ἐμμελῶς πάντων ἔχοντα, τὸν δὲ ἄνθρωπον γυμνόν τε καὶ ἀνυπόδητον καὶ ἄστρωτον καὶ ἄοπλον: ἤδη δὲ καὶ ἡ εἱμαρμένη ἡμέρα παρῆν, ἐν ᾗ ἔδει καὶ ἄνθρωπον ἐξιέναι ἐκ γῆς εἰς φῶς. ἀπορίᾳ οὖν σχόμενος ὁ Προμηθεὺς ἥντινα σωτηρίαν τῷ ἀνθρώπῳ εὕροι, κλέπτει Ἡφαίστου καὶ Ἀθηνᾶς τὴν ἔντεχνον σοφίαν σὺν πυρί—ἀμήχανον γὰρ ἦν ἄνευ πυρὸς αὐτὴν κτητήν τῳ ἢ χρησίμην γενέσθαι—καὶ οὕτω δὴ δωρεῖται ἀνθρώπῳ. τὴν μὲν οὖν περὶ τὸν βίον σοφίαν ἄνθρωπος ταύτῃ ἔσχεν, τὴν δὲ πολιτικὴν οὐκ εἶχεν: ἦν γὰρ παρὰ τῷ Διί. τῷ δὲ Προμηθεῖ εἰς μὲν τὴν ἀκρόπολιν τὴν τοῦ Διὸς οἴκησιν οὐκέτι ἐνεχώρει εἰσελθεῖν—πρὸς δὲ καὶ αἱ Διὸς φυλακαὶ φοβεραὶ ἦσαν—εἰς δὲ τὸ τῆς Ἀθηνᾶς καὶ Ἡφαίστου οἴκημα τὸ κοινόν, ἐν ᾧ ἐφιλοτεχνείτην, λαθὼν εἰσέρχεται, καὶ κλέψας τήν τε ἔμπυρον τέχνην τὴν τοῦ Ἡφαίστου καὶ τὴν ἄλλην τὴν τῆς Ἀθηνᾶς δίδωσιν ἀνθρώπῳ, καὶ ἐκ τούτου εὐπορία μὲν ἀνθρώπῳ τοῦ βίου γίγνεται, Προμηθέα δὲ δι᾽ Ἐπιμηθέα ὕστερον, ᾗπερ λέγεται, κλοπῆς δίκη μετῆλθεν.

ἐπειδὴ δὲ ὁ ἄνθρωπος θείας μετέσχε μοίρας, πρῶτον μὲν διὰ τὴν τοῦ θεοῦ συγγένειαν ζῴων μόνον θεοὺς ἐνόμισεν, καὶ ἐπεχείρει βωμούς τε ἱδρύεσθαι καὶ ἀγάλματα θεῶν: ἔπειτα φωνὴν καὶ ὀνόματα ταχὺ διηρθρώσατο τῇ τέχνῃ, καὶ οἰκήσεις καὶ ἐσθῆτας καὶ ὑποδέσεις καὶ στρωμνὰς καὶ τὰς ἐκ γῆς τροφὰς ηὕρετο.”

– Πρωταγόρας, Protagoras, 320γ-322ε, where his master shows his usual inhuman artistry with such beautiful description, or it would be if such was kept on the realm of fantasy not so unhappy and detrimental to all of humankind as the creationist mindlessness it is.

[35] “εἰς ἕτερον γάρ τίς τε ἰδὼν ἔργοιο χατίζων
πλούσιον, ὃς σπεύδει μὲν ἀρώμεναι ἠδὲ φυτεύειν
οἶκόν τ᾽ εὖ θέσθαι, ζηλοῖ δέ τε γείτονα γείτων
εἰς ἄφενος σπεύδοντ᾽ • ἀγαθὴ δ᾽ Ἔρις ἥδε βροτοῖσιν.
καὶ κεραμεὺς κεραμεῖ κοτέει καὶ τέκτονι τέκτων,”

– Έργα και ημέραι, Works and Days, 19-24, which describes how a hard working farmer motivates the others to not be lazy; and that the greatest enemy of potters are potters, of artists artistis, of beggers beggers and of singers singers’, which Aristotle just love to repeat and present that inter-species competition as the means that horns as the way that nature maintains balance by taking material from one part in order to fashion another and just as only birds have extreme vision and terrestrial animals do not nature does nothing in vain, but gives every characteristic for a purpose as the horns for defence and the vision to see from far above.

We can see that rather than questioning such links or even ‘what is a species’ he instead just moulded everything to his preconceived world views; rather than knowledge, and its power, or any explanation it sufficed to ‘justify’ by attributing it all to some divine power – indeed any questioning of his faith showed that the other party ‘was not in need to being taught, but of punishment’.[36]

He would not try to align his beliefs with the truth, but distort the world to defend his notions.

If he were to study humans how would he react to see over time a new artery becoming much more common on the new generations; or a trend to smaller mandibles where on the older bones show a larger one that could perfectly fit the last teeth – or how the very musculature was changing throughout time since the groves and attachment points of the muscles on the bones were clearly, and gradually, different.

Or how could he deal with noticing that more people were being born without a palmar muscle; and that besides that one many more tiny muscles were present around the head and body for no function – and how on the neck a very small percentage of individuals he could find a muscle from the neck vertebrae to the clavicle; and many such ‘rare muscles’ running mostly on some specific family.

He knew the law of inheritance to justify why and perhaps would say some birth defect and abnormality on some of their progenitor passed on like that, but most likely he would flee to the save haven of irresponsible ignorance; after all, who are we to question the works of the gods? So infinitely superior to us it would be foolish of us to based on our limited intellect to say those things have no function; the mysterious of the gods are simply too complex for us to grasp – and unthinkable that there would ever truly be a mistake of their parts or for the perfect natural laws that keep everything in balance to ever do something superfluous.[37]

---

things are always improving and ‘lazyness kept at bay’. And how wilfully blind of him to not apply it to the natural world and the inheritance principles he already knew.

[36] “Οὐ δεῖ δὲ πᾶν πρόβλημα οὐδὲ πᾶσαν θέσιν ἐπισκοπεῖν, ἀλλ´ ἣν ἀπορήσειεν ἄν τις τῶν λόγου δεομένων καὶ μὴ κολάσεως ἢ αἰσθήσεως· οἱ μὲν γὰρ ἀποροῦντες « Πότερον δεῖ τοὺς θεοὺς τιμᾶν καὶ τοὺς γονεῖς ἀγαπᾶν ἢ οὔ» κολάσεως δέονται, οἱ δὲ « Πότερον ἡ χιὼν λευκὴ ἢ οὔ » αἰσθήσεως.”
– Τοπικά, Topics, I: 12.

[37] “ΣΤΡΕΨΙΑΔΗΣ

Ἀλλ᾽ ὁ κεραυνὸς πόθεν αὖ φέρεται λάμπων πυρί, τοῦτο δίδαξον,
καὶ καταφρύγει βάλλων ἡμᾶς, τοὺς δὲ ζῶντας περιφλεύει.
Τοῦτον γὰρ δὴ φανερῶς ὁ Ζεὺς ἵησ᾽ ἐπὶ τοὺς ἐπιόρκους.

ΣΩΚΡΑΤΗΣ
Καὶ πῶς, ὦ μῶρε σὺ καὶ Κρονίων ὄζων καὶ βεκκεσέληνε,
εἴπερ βάλλει τοὺς ἐπιόρκους, δῆτ᾽ οὐχὶ Σίμων᾽ ἐνέπρησεν
οὐδὲ Κλεώνυμον οὐδὲ Θέωρον ; Καίτοι σφόδρα γ᾽ εἴσ᾽ ἐπίορκοι.
Ἀλλὰ τὸν αὑτοῦ γε νεὼν βάλλει καὶ Σούνιον, ἄκρον Ἀθηνέων,
καὶ τὰς δρῦς τὰς μεγάλας, τί μαθών ; Οὐ γὰρ δὴ δρῦς γ᾽ ἐπίορκεῖ.”

– Νεφέλαι, The Clouds, where Aristophanes jokes about the logic of Socrates; a general man speaks the faith and ‘truth that everyone knows’ that lighting are thrown by Zeus at perjurers, but then Socrates asks then why has no such and such not been striken yet since there can be no greater perjurers than them, and further why he strikes his own temple, the promontory of Athens or large oaks because certainly an oak is no perjurer.

This is posed as a joke so that Aristophanes does not even deign to provide a reply; the character does not provide a counter-theory of what lightning is, or rather presents a joke to what they are, and rather than useful admittance of ignorance and inquisitiveness Aristophanes take the worthless magical ‘answer’ – his argument is clear as he mocks the very attempt to question the inquestionable and doubt that which is too high beyond human intellect to be sounded.

> “What authority have we ignorant mortals then to judge who is or not just? On the contrary the gods are the ones who know all; and what if the presence of the tree were to block the wind and to diverge the rectitude of the course of the divine arrow? And what if from the protection of its canopy were to appear voracious insects to devour the fruits of the flowers of myrtle which would be to philomeidic Áphrôdithi or if it were to deprive the olives of Apôllonôs from their light and nutrition bringing war on the world of men? And if its root were to make a hero to trip? Should we not pull out and throw away our eye or hand or foot not when it is already too late, but when they potentially are that which they will come to be? How much more than is a plant to be thrown away; and what sin is greater than to hindering the will of the gods to come into fruition!?”
>
> – I explicitly present it in *Kaiho 1: 五: XIII: θ `β.*

That is what I say Aristotle would argue too when presented with any ‘useless structure’ that could defy his notions of ‘the perfect work of nature; everything for a purpose and nothing superfluous’.
It might seem I am going really sidetrack and just trashtalking religions; and going on about some that does not even exist anymore, but I merely present the formula and reasoning for questioning it on such well accepted grounds so that we may also question why we apply it so partially and do not question the exact same logic still being used today.

> “The lightning kills a man, whether a good one or bad one, owing to the excessively complex action of natural laws,—a child (who may turn out an idiot) is born by action of even more complex laws,—and I can see no reason, why a man, or other animal, may not have been aboriginally produced by other laws; & that all these laws may have been expressly designed by an omniscient Creator, who foresaw every future event & consequence. But the more I think the more bewildered I become; as indeed I have probably shown by this letter.”

But then at studying the anatomy of monkeys he might notice the bones are slightly different, but quite analogous to that of humans; and that the neck-to-clavicle muscle so rare in humans is present ubiquitously on the apes – and many other non-functional and so underdeveloped or rare in man are perfectly developed and functional in the apes.

Studying it more carefully he could see the ontogeny of the foetus growing to the adult animal; that it was quite points, in both cases, to ask 'how many bones does the body have?' since the baby would have many more that fused during development – and rather than some exact body plan each varies slightly and during their lives go on fusing and changing in number all the way until death.

He could test that any harm done to the very zygote or during the many phases of development would cause great failures on the organism later; that it was a mechanical processes depending on

---

– To Asa Gray 22 May [1860], one of the most famous letters of Robert; where he uses lightning as such well accepted idea at his time that it is an example that the 'natural causes' of live are to be accepted on the exact same logical grounds.

Although the Christians who fought it also fought against putting a lightning rod since they had to blindly accept the inquestionable 'truth' of their faith; just as they refused to look through the telescope of Galillei – and although the reader that got to this point should have at least the most basic scientific mind that abhors to even consider all such baseless nonsense of the religions as 'arguments', such beliefs are still the most popular on his ignorant world.

”وَاللَّهُ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَحْيَا بِهِ الْأَرْضَ بَعْدَ مَوْتِهَا إِنَّ فِي ذَلِكَ لَآيَةً لِقَوْمٍ يَسْمَعُونَ“
– قُرْءَانُ, Quran, XVI: 65, proclaims that rain is the work of the divine and a blessing to his servents proving his power and compaxion.
هُوَ الَّذِي يُرِيكُمُ الْبَرْقَ خَوْفًا وَطَمَعًا وَيُنْشِئُ السَّحَابَ الثِّقَالَ وَيُسَبِّحُ الرَّعْدُ بِحَمْدِهِ وَالْمَلَائِكَةُ مِنْ خِيفَتِهِ وَيُرْسِلُ الصَّوَاعِقَ فَيُصِيبُ بِهَا مَنْ يَشَاءُ “
”وَهُمْ يُجَادِلُونَ فِي اللَّهِ وَهُوَ شَدِيدُ الْمِحَالِ
– قُرْءَانُ, Quran, XIII: 12-13, says that lightning are the work of their god to show his power and threaten the wicked.

When giving up on all logic the common argument is such of absolute irrational fate; where questioning is forbidden since the divine is simply incomprehensible to our limited and failed logic so that we must blindly accept the injustifiable and detrimental. I say it here so throughtly on such solved questions to present the deficient logic of it and how even before the brute force of studying the phenomena we could judge their 'argument' as worthless; and I will bring this up again when considering the very core of our modern Physics since that is the main argument the proponents of Quantum so madly love to repeat belitting the very notion of sciences and our judged to just blindly accept that unjustifiable higher power beyond our comprehension.

"ἀλλ' ὡς ἀπέχει ὁ οὐρανὸς ἀπὸ τῆς γῆς, οὕτως ἀπέχει ἡ ὁδός μου ἀπὸ τῶν ὁδῶν ὑμῶν καὶ τὰ διανοήματα ὑμῶν ἀπὸ τῆς διανοίας μου."
– Ησαΐας, Isaiah, LV: 9, where the most famous sum of the argument can be found; 'as the heaven is higher than the earth, so are his thoughts than ours'.

the equilibrium and organization of the particles within rather than some pre-defined plan made by some outside force – with a real good microscope and capacity to analyses the processes he would see that the cells have nucleus from which all exact sequence all proteins are produced to form every and each structure on the body. And that it divided and formed the reproductive cells; which offspring inherited a part from both parents – and that messing with that code would change the development of the being.

He could identify that those apes and those rare humans with the muscle had a same gene that was lacking on most; and only those families had it because it was passed on to their offspring.

He would see that the many anomalous monstrosities that sometimes appear are not some plague from the gods cursing that body, but some rare genes that managed to come together without a dominant one so that it manifested from its forgotten place on the genome; a gene found commonly on other animals.

He could then classify the animals by how different their genes were; not only the appearance that all monkeys seem to belong to a same group, but even supposed how close or distant they are based on how different their code is.

He would see that not only monkeys looked a lot like humans, but that every other mammal was built on the same general model; be it a monkey, a flying bat or a giant whale – the very same complex hand of useless fingers inside the whale arm was stretched and deformed to form the wing of the bat and to construct the hand of the monkey, followed by the metacarpal and carpal parts before the forearm of the same two radius and ulna bones to then the same single humerus and mammalian shoulder.

How different from fish was such hand and the unique shoulder presents only in mammal, rather than judging by their blood; and how indeed they all shared genes unique to mammals that grouped them all closer to each other than to all other animals – so that the reptiles indeed have analogous hands and arms, but are separated from all mammals by that shoulder.

And by their maxilar made of so many bones when we mammals have a single large one and the genes related to the mandible on reptiles have changed to form our complex ear instead; and how very chilling that unearthing fossils show distinct intermediary states of animals of changing legs placement, from the side of the body like reptiles to be bellow like mammals, and migrating mandible bones – so that it is instantaneously recognized as a mammal fossil from such unique characteristics of the group even without looking at the double fenestral hole on their skull which reptiles have a single one.

How very uncanny would be to study the horse that is so clearly a mammal with the same complex ear from the mandible bones and the same milk producing genes, but that it stood on a single digit rather than the common hand that even whales have; and then to see that the foetus indeed has several bones and the genes coding for them, but that during development they fuse – it is not that they lack the genes, but that they are modified. And the fossils show some older horse with less fused fingers; and even deeper, and thus supposed to be older by mere stratigraphy, horses with three fingers – the gradual inheritance of a gene ever more changed.

And how weird that it is slowly becoming harder to identify them as horses since their skeletons gradually change the deeper it goes, but that it is obvious to be related and ancestral to those newer ones up to the horses today; yet going far enough it is impossible to find the ancestral for a tapir and a rhinoceros and for a horse – because when following any of their lineage through the layers we end up with a single animal that we cannot call to be exactly any of them, but which clearly fathered the next layer and so on slowly diverging into different forms.

We can easily tell them apart nowadays, but how to mark the border when it is no longer a horse or tapir? And how could a non-horse father a horse? The animal on that border would certainly be closer to its own parents than to modern horses; and so gradually impossible to group them in as any distinct and unique species.

Just as each person differs from his father and mother so too did said parents differed from their own fathers; and as he already knew we are thus more distinct from our grandparents – and how it should not surprise him then that after the greatest work in making anatomical models, just like the shock of medicine upon the discovery of the Americas and Australia, the more exact they are the more wrongly they fit. Since they were made for some European families and the very arteries and nerves of the 'other races' are differently disposed as well as the very average proportion of each member and organ is consistently different; yet how different could he really call them when by their genes it was so easily conceivable that not-so-long ago they could have been the same people who simply spred to different places – would he dare to seek the hint of such a travel and unveil the common origin of all men?

Perhaps he would be driven by necessity as his vulnerable kind went down in plagues; how would his views of the divine right of the Greeks as a master race that were meant to rule over the inferior races for their own benefit of civilization and learning? When the Greeks pitifully came down with 'diseases of white men' that the others 'races' just ignored; and when studied was nothing more than some one or few genes which changed some pathway that then could no longer be exploited by the foreign organism.

And how some rats and 'spontaneously generated lower animals' were genetically more akin to man than to most other animals; and how they so often caused disease exactly beause of that proximity on the likeness of their organisms, just as they could serve so well to test the effect of drugs by that very proximity – and how uncanny that offering them treaties and other substance the very taste of what attracted them and what repugnated them, and the very effect the substances produced on the organism, reflected that degree of their proximity to us.

Plato himself called sponge to be animals and he followed suit explaining how tunicates responded to touch and thus, even being sessile, classed 'above plants' as the basest animals; facts that somehow translators would put notes saying that they were mistaken – and how could he then confirm his assertions and definition of what an animal is by seeing how they all share the same basic cell with an amorphous double phospholipid barrier in constrast to the fungos which closer to animals did not have the chloroplast just as rather than cellulose their rigid structure came from quintain.

How he would be forced to admit such progressive degree of relation, and then to the rod-shaped anucleic animalia as more distance than the eukaryotic ones; how would he keep his Great Chain of Being before that?

The disease of 'mad cows' described before his time would now be plain to him to be a certain essential protein for brain development; and thus it infected humans exactly because we use the same genes and the same protein on our brain – another of the so massive number characteristics found through the entire mammalian kingdom.

And the reason for it to be so unchangeable would be rather obvious; simply because a mutation to it and variation would mostly be fatal to the creature and it could not be passed on since the dead would produce no offspring – it was thus a strongly conserved part of the genoma, and as many others the reasons why so many diseases could affect virtually all mammals since they inferred with the same basic bodily proccesses used by them all.

How could the gods repeat that on their every creation? And how could nature allow so many useless things as the redundant process of development of the embrio and the vestigial organs and muscles, so perfect on other animals but meaningless in us? How could that possible be our 'final perfect state'? Rather than such perfect creation we are gradually changing too.

And do not the fossils show that nothing was created out of nowhere, but that they came from somewhere and from some form gradativelly reaching their current range and shape; they had a past that lead to their current form and they too have a future where their offspring will go on more and more distinct to the present forms – and nothing that he could find was independent and unique, but all were as the successive lineage of ever more distinct branches from a same root.

The very same genes present on trees and the most distant single-cell organisms are present on humans; strongly conserved since a change on them would be fatal – and thus eternally present serving as some base that little by little was built upon by the iteration of copis adding or changing the code to produce all known.

Humans have the weird body plan where the nerve of our larynx does not connect directly to the brain, but passes bellow the arch of the aorta before going up; and so to giraffes with meaningless meters of nerves going down the neck and back up rather than what would be expected from some intelligent design – yet the genes can be traced back to fishes where that distance and plan was negligible, and which rather than appearing on every mammal it indicates only that they all inherited it.

Much closer our ubiquitous back pain is inexistent in monkeys who are so alike us; since we move erect much more while still having the apparatus not perfectly fit for that so that it is damaged and worn as if by the misuse of walking erect – and where should he go to explain how the apparently so perfect organ of the eye could be so badly constructed as to have blind spots by meaningless passing structures before the clear lenses? Our very immune system seems like a divine blessing against all diseases; unlike lower animals like crawling insects ours can learn to identify different invasors and deal with them more effectively – but how can such a blessing reach to mere dust and polen attacking ourselves for harmless things?

Far from some divine curses it would be clear that it was all merely activated by certain chemical reactions that could be as easily fooled and manipulated rather than some divine force.

With mere careful observation of the natural world throughout time the impermanence of the forms of living being would be undeniable; and with the more knowledge acquired less space there would be for faith.

As he sought a purpose in nature at which it was gradually evolving towards he could see the great Parnassus Mount and ask why the snowy harbour of Deucalion[38] was bald of all its verdant vegetation; and why from all animals only the dryads and the companions of Pan make merry in Koryko[39] – while in constrast if the the deep forests of Olympus were there only because Orpheus with his sweet lyre made them gather around.[40]

---

[38] That is, the snowy mountain tops.

[39] A rocky cave in Parnassus.

[40] “πόθι Νύσας ἄρα τᾶς θη-
ροτρόφου θυρσοφορεῖς
θιάσους, ὦ Διόνυσ᾽, ἢ
κορυφαῖς Κωρυκίαις;
τάχα δ᾽ ἐν ταῖς πολυδένδρεσ-
σιν Ὀλύμπου θαλάμαις, ἔν-
θα ποτ᾽ Ὀρφεὺς κιθαρίζων
σύναγεν δένδρεα μούσαις,
σύναγεν θῆρας ἀγρώτας.
μάκαρ ὦ Πιερία,
σέβεταί σ᾽ Εὔιος, ἥξει
τε χορεύσων ἅμα βακχεύ-
μασι, τόν τ᾽ ὠκυρόαν
διαβὰς Ἀξιὸν εἱλισ-
σομένας Μαινάδας ἄξει,
Λυδίαν πατέρα τε, τὸν
τᾶς εὐδαιμονίας βροτοῖς
ὀλβοδόταν, τὸν ἔκλυον
εὔιππον χώραν ὕδασιν
καλλίστοισι λιπαίνειν.”
– Βάκχαι, Bacchae, *556-575*; the scene I reference on all this comparison.

Or rather than any divine will dividing the land was it simply the sucecipble place for chemical reactions to happen? The fertile land, the smooth water and the calm wind which catalize the activation energy for the seeds of life – which both created as still shape every reaction to their very behaviour and form.

If he ever got to see the enormeous Cordilheira he could not help but ask himself the reason of there being animals and plants on the humid side of the mountain and not on the other. Did the gods created such unique species only on one side and spread through the latitude without creating on the other side? Or is it the simple reality that they simple could not live on the inhospirable conditions and thrive only on such other side? But could not the gods make some perfectly adapted animals there as they made to the other side?

Yet all around the world mountains block the rain clouds and creates fertile forests on that humid side; while on the other within its shadow we find deserts devoid of all luxury.

He had already dertemined the season why the sea is salty; this time not by the usual meaningless excuse of 'it was the design of the gods', but that salty water is denser and it would flow to the lowest point all gathering in one place – the rivers carried minerals and deposited to the ocean.

Amid the minerals he would then be able to see the very essential elements used by plants and the factors that made a soil fertile or not; he would see that just like on the mountains it was the sediment of rivers that made forests and life so abundant near them and not some magical property of the river gods – and as he had already described the winds as an ocean of air flowing like rivers he would perhaps see how those rivers of elastic liquid would also transport sediment and such natural factors entirely determined the conditions that allow things to prosper or not.

The fossil record showing ancient ecosystems created from different natural conditions; and animals adapted perfectly to them.

Could he at this point dare to suppose the eighteen century excuse that 'there were several waves of creation'? That the gods made the dinosaur and their world just to destroy it all and make 'a new age' of perfectly adapted animals to different ecosystens time after time?

All the strongest hints of 'evidence' cannot convince those who are wilfully blind; just like today most of the world turn their faces away from knowledge and seek the confortable ignorance as their imagined protection against reality – I know not what the inquisitive mind of Aristotle would do since his faith always preceeded his reason, but he would be hard pressed in cognitive dissonance as he looked to the volcanic island right from the coast of the Cordilheira.

Island which did not exist for long and which naturally came desolated from the sea due to their violent formation, but whih now are populed by unique species not found anywhere else in the world – could it be postulated some minor event of creation by the gods every time such island appears?

For the surface of the Earth is thus in constant production of new island while they entire continents are risen, sunken or torn apart; the fossils of Sahul and Sunda are of no living animal today, but far from the current animals appearing from nowhere we see the same gradual progression of older forms, while most indeed are extinct as just a few branch out into many – and rather than a single consistent biota neighbouring island can be as different as two continent since rather than created there as a set there is a direct correspondence of the ocean currents and the coast where the closest species to those of the island live.

The very rats he would have taken on his travels would serve to his study as they ravaged the wildlife which had not the instinct to flee; or birds devoid of flight since on far island they were the only animal that managed to find that save haven – and how the most fearful and quickest birds would soon be the only ones left and the gene pool prumed of all other characteristics as if being selected to produce the most adapted offspring to survive the new environment.

Upon seeing tenrecs he could compare to his own rats the behaviour of some, but how very different others would be as they have entirely different organs perfectly adapted – some to live in trees while others to dig, others to swim and so on. He could easily compare them to other arboreal animals just as to his own rats while others would be alike blind moles and hunting sea otters all the way to so ‘unique’ creatures as porcupines – simply what appeared the best to their environment, and could he doubt that his rats on new islands would not do the same as those as some mutation allowed them to explore that niche and be then selected by the most sucessful survivors into so many new ‘species’?

Coconuts being so common around the world he would feel silly to suppose the gods re-created them time after time, but that simply their capacity of floating allowed them to be carried by the waves to germinate afar; just as the other plants presente were those carried by water, wind or birds and not any other – birds which are the most common animals in every island as they clearly can easily be the first to conolize new land. Their beaks diverge as each specializes to a different kind of food around and are more successful at it than the others; and the very capacity of flight that took them there is often lost unto so different of an animal in so short a time – since those whose genes are thus better fit for the new environement are those who leave offspring.

Hardy reptiles too are commonly found on those volcanic island since they can weather the salty sea and get there alive, but the place that would be such a humid haven to amphibians is devoid of them.

How could he advocate for the individual creation before that simple reality that they could not cross the salty barriers to get there?

How vain would have been the work of gods if they had divided the countries of the earth with the separation of the ocean and the creation of unique species; for just like the bold race of men in boats conquered the violent ocean so too the animals go where it should be forbidden to them and destroy all divisions and species once found there.[41]

IV – The Mechanisms Of Creation

Now I hope you will forgive me from this apparent digression and tangent into the great argument of Natural History which is today solved beyond all doubt. But the reader should make himself familiar with the ideas of creatinism which Robert fought against his whole life; and that Aristotle might have rejected the very reality before his eyes in exchange for keeping his baseless beliefs.

'That is just how god intended' would be all that he needed to answer in order to ignore it all.

Robert lacked all knowledge of such genes and how exactly it all happened, but he could assert based on the 'evidence' before him; from which he concludes that 'so many strange contingencies seem to me improbable in the highest degree'.[42]

My argument upon those, however, is much bolder and precise; it is not that 'it seems to be most probable', but that it is the only justifiable assertion – it merely is impossible to defend and uphold the other one as a logical theory and explanation, and once again choosing simple ignorance would be preferable to some baseless belief.

It might seen at first like repeating 'the gods made it like that' is the most parsimonious possible thing, but rather it is the less parsimonious thing possible since the first assertion did not imply anything else; as it happened as an independent act of creation so that he has to give the excuse and invent a new act of creation for every phenomenon and thing – it gives virtually infinite many causes, all individual separate acts, rather than the true parsimony of one thing implying by necessity many others.

Establishing a rigorous definition of 'parsimony' would solve so, but whichever way it is conceded for the parsimoniousness of it the goodness is beyond clear that the magic creation of some species or particle or law gives no understanding of the process and could not get any worse than not only not answering but hinder the pursuit of the underlying reality.

---

[41] "Nequiquam deus abscidit
Prudens Oceano dissociabili
Terras, si tamen impiae
Non tangenda rates transiliunt vada.
Audax omnia perpeti
Gens humana ruit per vetitum nefas."
– Carmina I: III: 21-26, where Horatius so call men heretic for 'crossing the boundaries made by the gods' as they explored accross the sea.

[42] "So many strange contingencies seem to me improbable in the highest degree."
– Origin of Species I.

Another thing that Robert lacked was the very chronometric revolution of our past century where not only the tomic atoms were accepted, but we also both broke them apart as we watched them slowly unwiding their internal structure to more stable forms; observation which took us from the relative dating and wild guesses of stratigraphy to the absolute range of radioactive decay.

With that we can assert, or rather we are forced to assert, that the Maias were wrong; we have seen that the world did not end in two thousand twelve, but some side prediction would not truly prove that their previous assertions were wrong – and neither did they ever predict some 'end of the world' on that date, contrary to what the popular ignorant hype led most to believe.

The date would rather have a party if their civilization had not been destroyed; the day to make a cool new calendar for the next 'four hundred', or rather three hundred ninety four, years – another b'ak'tun calendar of twenty og twenty of eighteen of twenty days. On twenty one of December two thousand twelve it simply marked that day for the 'fourteentieth' of such b'ak'tun cycles since the day that the gods created mankind.

And that is where we can affirm that they were wrong.

The assertion of when the gods created mankind is little more than five thousand years ago, but we also find artefacts in Egypt showing how it already had a long history and that by this time Narmer was changing that history forever as he wore his double crown unifying the two lands.

That would be some conjecture about the geographic layer it was found and to believe the writings of others, but it all changed from extremely high probability to certainty when we could analyse the very atoms of that potery and artifacts to find the trapped pockets of gas on the structure and those molecules to tell their age; so we can also date long deeper into prehistory like five thousand years before that supposed creation date when we already see the presense of men and their Clovis settlements right there in Mesoamerica – and doubling again ten thousand years before that the atoms testify the migration of their very ancestors from Asia into the Americas.

There too, of course, we can find older and older marks showing that they came from somewhere or some form; all the day to some billions of years.

So that we can indeed with all certainty affirm that the Maias were wrong, if that 'atomic' structure do indeed act as we have so throughtly observed it to; and just as we are absolute sure that the Maias tale of creation is the worthless fantasy of some not-so-smart savage so too we likewise see beyond any doubt that the Hebrew mythology, which puts creation just a few centuries earlier, is identically no more than another vile and deceitful fairy tale – perhaps a worse one since we can see it was entirely plagiarized from the higher Levantine myths around it rather than any originality or art to it.

Yet, while we eventually attain that 'brute force' to solve it beyond any doubt, any other random person can just as well now make-up a new myth of a deity that created the universe that is just beyond our ability to 'prove it wrong', as today many of such silly religions still live on by going down the rabbit hole of wilful blind ignorance or with the wildest mindlessness 'justifications' that the fairy tale of some goat herder is an allegory to atemporal realities beyond our grasp; just as the discovery of smaller and smaller particles never seems to discourage the repetition that 'this next one I am sure is the atomic fundamental element' – truly following the oldest excuse that 'as high as heaven is from the earth' so too they always flee to the great irrationality where logic may not touch them.

Yet no 'proof' is requited to promptly reject those lines of 'thought'; just as we could dismiss the Mayan fairy tales, and the other Middle Eastern one, long before the 'counterproof' since such baseless claims lacking all 'proof' are equaly rejected with no need for a 'counterproof' – there is no 'likelihood' to consider, but merely if it is a necessary logical assertion that we are forced to accept.

So I do not say that 'it is likely', as Robert did on his conclusion, but that it is the only justifiable theory we can embrace; by accepting rational thought we are forced to reject those other ones regardless of if we have such beautiful alternative, or an absolute 'counterproof', or not.

And the reason Natural Selection can be so readily accepted is that it makes use of no magical force or to admit some unknowable entity; it uses entirely of undeniable phenomena that are already admitted by the very same people who advocate for other theories – it took what was already admitted and elicited the mere logical necessity of those things, namely the variation between animals, the competition that favours some more than others and the inheritance of those variations.

But the most powerful thing for us here is that it provides a mechanism; the regular motion of the seasons of the moon, the day and the year, and so many other patterns in nature, have throughout all of human time been used as the argument for intelligent design – that somehow something implied a higher even more complex thing. Which clearly proceeds ad infinity on its foolishness requiring a creator even more intelligent than the intelligent creator.

But with those three simple admitances Robert elicited all of the natural world; from the simplest cell to the most complex animal with trillions of them – and that complexity was the very opposite of a hint towards a design, but a hint to the underlying mechanisms which shaped them like that.

The likeness of 'allied species' and patterns when grouping things in nature reveal instead to the common simpler cause that produced them.

This is what René and the others lacked; the idea of 'complexity' not as something inherent, but the interaction of many factors gradually built from some principle.

He was right about heat, but he failed on his vorteces about gravity; trying to solve everything with some ‘elementary unit’ that somehow still had many different sizes and shapes – and that would magically produce everything directly.

That was no selection; no means to justify complexity – and not even a reduction to a common factor if somehow all those units differ from each other.

Robert apparently did not notice the extents of his own inhuman observations; his commentaries of the ‘natural world’ included geology as much as all of living things – and although he shows no boundaries in interpreting both he somehow limited Natural Selection solely to ‘living beings’.

When seeing mountains he certainly would not for a moment think it was the work of god or even less some ‘individual species’ even before extending the notion to living beings; he wondered what forces rose those mountains and the countless ages it must have taken – when looking at the stony field of shingles in Patagonia he would not think that was the work of some deity, but merely the product of sediments that must have eroded from the Cordillera.[43]

The very composition of it being exactly the product how weaker material eroded first leaving behind the stronger rock and metals laid bare; both current forms the exact result of that selection – and how even animals could be the main selecting factor that equally selected the shape of their environment as much as their own shape were adapted to fit it.[44]

There are about numberless ‘species’ of rocks, but not for a second he attributed them to individual acts of creation or simply that ‘it had always been’; rather he wondered at the most literal pressures and factors, such as the elements present and temperature, that could have possible formed that structure which laid before his eyes[45] – and that scientific mindset allowed him to suppose the unseen and predict the undiscovered by mere logical extension and justified necessity, predict the mantle and tectonic plates which only so much later would be even considered as a possibility[46].

---

[43] “Who can avoid admiring the wonderful force which has upheaved these mountains, and even more so the countless ages which it must have required, to have broken through, removed, and levelled whole masses of them ? It is well in this case to call to mind the vast shingle and sedimentary beds of Patagonia, which, if heaped on the Cordillera, would increase by so many thousand feet its height. When in that country, I wondered how any mountain-chain could have supplied such masses, and not have been utterly obliterated. We must not now reverse the wonder, and doubt whether all-powerful time can grind down mountains—even the gigantic Cordillera—into gravel and mud.”
– Voyages of the Adventure and Beagle III: XIV.

[44] “In the morning, we stood out of the Lagoon. I am glad we have visited these islands : such formations surely rank high amongst the wonderful objects of this world. It is not a wonder, which at first strikes the eye of the body, but rather, after reflection, the eye of reason.”
– Voyages of the Adventure and Beagle III: XXII.

[45] “The geology of the surrounding country possesses little interest. Throughout the coast of Brazil, and certainly for a considerable space inland, from the Rio Plata to Cape St. Roque, lat. 5° S., a distance more than 2000 geographical miles, wherever solid rock occurs, it belongs to a granitic formation. The circumstance of this enormous area being thus constituted of materials, which almost every geologist believes to have been

Any current formation had to have come from some previous form which through exact pressures was shaped into what we see today.

This is not an analogy; I am asserting that there is no justification for the arbitrary boundary so that they are precisely the same phenomenon – the integration of causes and effects that lead to the shape and building of every structure observed. No magical power or guiding force at play, but the continual interaction formed both the structures just as they themselves form the environment; all 'complexity' is the product of nothing more than that 'selection'.

Each detail of each striation, foliation or the smallest of stains was formed by exact factors; each rock and crystal just as the position of every grain of sand on the beach or dust in the air and the very air had all their infinitesimal tomic atoms thus allocated and placed by a quasi-invisible hand which by their weight, size, position, velocity and all other characteristic naturally selected them to the current form – each minimal detail of all things did not appear from nowhere nor can be attributed to 'chance' or 'individual acts of creation', but rather they are the witness to the sequence of factors that formed them exactly so and they reveal the actions of the forces which they are simply the current product.

---

crystallized by the action of heat under pressure, gives rise to many curious reflections. Was this effect produced beneath the depths of a profound ocean ? or did a covering of strata formerly extended over it, which has since been removed ? Can we believe any power, acting for a short of infinity, could have denuded the granite over so many thousand square leagues ?"
– Voyages of the Adventure and Beagle III: I.

[46] "A bad earthquake at once destroys the oldest associations : he world, the very emblem of all that is solid, has moved beneath our feet like a crust over a fluid ;—one second of time has conveyed to the mind a strange idea of insecurity, which hours of reflection would never have created.

...

Few cases are on record of volcanoes, very far distant from each other, bursting out at the same moment of time. In this instance, however, at the same hour when the whole country around Concepcion was permanently elevated, a train of volcanoes situated in the Andes, in front of Chiloe, instantaneously spouted out a dark column of smoke, and during the subsequent year continued in uncommon activity

...

From several considerations, which I have not space here to enter on, and especially from the number of intermediate points whence liquefied matter was ejected, we can scarcely avoid the conclusion, however fearful it may be, that a vast lake of melted matter, of an area nearly doubling in extent that of the Black Sea, is spread out beneath a mere crust of solid land."
– Voyages of the Adventure and Beagle III: XVI.

Now, I do not doubt that any reader will question that all minerals are indeed 'the product of the fixed laws of nature', but I claim that such 'laws' are a harmful illusion to the reality of the identical selective processes that have produced every form.

One might easily say 'but rocks have no DNA!' and indeed that is true, but neither did Robert know about 'the genetic code of life' when he instituted his description; 'inheritance' does not mean 'DNA' – it means exatly that the current form is the product of previous fators rather than an universal pre-set or perfet Platonic form that as been stablished as an unique act of creation.

'Variation' does not mean 'random mutation', but Robert more than anything focused on 'use and deuse' as the mechanism to evolve forms; that is that the previous forms would affect the next ones.

Today we have wrongly mostly ignored that great observation in favour of the gene-centric cultists who imitating Quantum say that chemical reactions happen 'at random' against the very 'laws of physics' they follow; they make the 'gene' to be the 'target of evolution' rather than the 'organism', but there is no distinction or line between the forest and its ecosystem engeeners – they both are causes of the others evolution and the product of those effects.

The 'meiotic drive' that forces some genes to be included on the gametes is the mere manipulation of the chemical gradients which decide exactly which are included on the mix – and the mere act of thinking hard releases perceptible sulphur on our sweat and changes the chemical equilibrium of our bodies, how much more all we eat, so that it would be impossible that the gamete products would be independent and immune to 'randomize the genes' ignoring the forces that promote or forbid, that exactly decide, the chemical bonds that occur.

The acquiring of our many copies to digest starch or the rapid skin colour that few generations suffer when changing to a place with less ozone, or every example of rapid evolution, could never be produced by some 'random mutation' that somehow in so short a time killed everyone who had less starch-digesting power or making them fail to reproduce; rather it is clear Robert was still right on his 'usage and desuge' and that the mere constant usage of the gene changed the epigenetic enough that it had priority to be passed on during the formation of gamets – the explosion of complex life in such short a time is the exact result of that 'greater power of selection' where the usage of the 'random mutation' led to all its improvement and perfect, complexity which could not have arisen in a trillion years if it depended solely on some 'random mutation' each time slowly cultivated by many generations until becoming fixed and waiting for another such 'luck shot'.

The genes are selected by the chemical gradient of their products and placement by usage, as 'the unit in a bigger environment', just as the general organism is 'the unit an a bigger environment'; and that river or florest and collective life that serves as 'the environment' is likewise no more than 'an unit in a bigger environment' when considering the evolution of such ecosystem in view of the climate and the greater picture.

That ecosystem changing throughout time is clearly an area of natural selection adapting and changing its many parts, but it has no single 'DNA' of the ecosystem; simply the collective factor of all its individuals driving it this or that way.

On the same manner it is sometimes said that faced inhospitable environments viruses evolve; and then that 'it is weird to say that because how could a non-living thing evolve?'[47].

That very silly questioning is made upon the concept of 'life'; for what is life? Some perfect Platonic form of all things that inhered that 'energy of vitalism'? Rather it is undistinguishable of every other chemical process; like every other word it does not represent some 'element of reality', again as some 'perfect Platonic form', but it is a made-up word for the arbitrarily defined concept – and why would then some process, like the cumulative consequences of cause and effect, only arbitrarily act upon that 'biocentric' view and not on every other chemical process likewise?

I have mentioned 'inheritance' as the very lack of that perfect form to instead be the result of cumulative changes; the 'variation' to be not 'a random mutation of DNA' but the building up of an structure in response to the cumulative effects received – and the last of the three necessary conditions for 'Natural Selection' to be elicited, 'competition', is resumed as 'the survival of the fittest' as they produce the 'new generation' which 'inherits' his fitness, which is the exact same process of how unstable structures decay, and thus 'leave no offspring', while stable formations last and continue on affecting the natural processes and making every other result 'inherit' from his contribution to it.

As said life is much more organized; the entire difference is how complex it is so that the selection exactly of 'better means of selection' provided the usage of DNA and the epigenetics that govern 'use and desuse' – the exact same process that in less complex forms, like rocks, produce every landscape and select for the exat position of 'every striation, foliation or the smallest of stains'.

V – Little Warm Ponds

We have here all the pieces and I was rather through and boring on my endless tautology of the same argument; so I would be rather appalled if you have not yet elicited the principle of Logical Succession.

As we stand before warm little ponds[48] we can ponder great many things; and if you look for certain angles you will notice a little bit of oil floating on the surface of the water – these oils, you might have already conceived on your own imagination, form perfect circles.

---

[47] "We can try to kill them with chemicals or UV light, or design vaccines to thwart them, but even then, they often evolve to evade our efforts. Except, all of that's kind of wrong, or at least really weird to say, because most scientists don't consider viruses to be living things. How do you kill something that is not alive? Or, how can a non-living thing evolve?"
– it is said in Scishow in an episode named 'Are Viruses Alive?'.

No one had to draw them to be circles, but they have become so purely out of 'arithmetical necessity'; they have been selected to that form as the most stable, they vary into elipses and shapes as the environment effects other unilateral pressures upon them and they affect the flow of water, transfer of heat and many other process just as the environment shapes it – and eventually it will take on some other less or more stable form that will inherit those effects it both suffered and caused.

It might sink; and rather than a circle it become a sphere – a bubble slightly separate and more stable than the outside environment where the phosphoric salts and azotic compounds might form proteins and, like crystals, organize themselves into self-repeating patterns of which only the most stable lasts and continue on.

Rather than focusing on that runaway chemical reaction, which behaviours are well accepted to suffer Selection, let us see how it was no 'luck' or 'chance' that it formed, and that 'suddenly started the process of Selection', but that it all were the product of the same identical process acting and selecting everything to that configuration.

The presence and disposition of the elements and the temperature define completely what reactions occur; any change of those and different results are selected for.

So why was the pond even warm? Had it been colder or hotter the very same elements would form different compounds; or continue as a soup forming little to nothing new at all.

Was that pond just some 'fluke of nature' and 'random coincidence', as so foolishly many today still use to describe it and skip right to the 'first life'?

Well; why are the poles freezing cold and the mattle burning hot? Was that just a 'coincidence' and 'fluke'? Why was not all the head concentrated on some 'giant heat lake' and why are the top of mountains colder; is it the design of the gods and their thermodynamic law intelligently designed to accommodate the world for us?

As impossible as it is to attribute those to 'independent acts of creation' or 'random luck' so it is to the pond; 'heat', the simple motion of particles, 'compete' with each other and every other

---

[48] "It is often said that all the conditions for the first production of a living organism are now present, which could ever have been present.— But if (& oh what a big if) we could conceive in some warm little pond with all sorts of ammonia & phosphoric salts,—light, heat, electricity &c present, that a protein compound was chemically formed, ready to undergo still more complex changes, at the present day such matter wd be instantly devoured, or absorbed, which would not have been the case before living creatures were formed.—" – To Joseph Dalton Hooker 1 February [1871], the famous speculation on his later of how life could have began.

particles forming structures exactly as selected for – the heat distribution around the world was the exact product of that selective pressure shaping them so.

‘Each individual particles following the path of less resistance and collectively giving the illusion of law and order simply because under the same pressures they form the structured selected for.’

Why was there phosphorus, nitrogen and carbon on the pond? Why was there a light ‘air’ atmosphere above, the pond in between and the earthy minerals below? Was it ‘luck’ that most of the iron sank to the core of the planet?

Or is it undoubted that the stratification of the planet happened by the exact selective pressures of ‘light’ and ‘heavy’ going to the most stabled where they were most fit, of ‘hot’ and ‘cold’ and all other factors that flee our list, but which we do not doubt were there? Just as the proto-planeraty clouds, by following the path they were shoved to by its surrounding, collapsed with these elements here and not for other planets; each as it individually followed the path of less resistance – the selective pressure of greater force.

Such ‘non-living’ things clearly shape all of life; the ‘heat structure’ itself defines the air currents of rain and weather patterns which, as on the aforementioned mountains, define exactly where the conditions for chemical reactions are present – where ‘life’ can thrive. But in no different away the cyanobacteria selected for our current third atmosphere; the azotes, as so many other worlds and the small scales bloom, cooled down the world and selected for a different weather – or more clear than all we today on our current climate crisis with our actions affect the selection of the weather as much as it selects for every other living thing.

There is certainly no perfect form of ‘life’ and ‘vitalism’, but it is ‘under the same laws’ that every other chemical reaction; the invisible arbitrary barrier of names does not restrict ‘Natural Selection’ as some special and unique event – but all things collectively are factors defining our ‘environment’ and in turn being selected by it also, that is the mere logical succession of causes and effects.

When we see a perfectly symmetrical crystal it was no ‘luck’, but a show of the selective pressures it suffered; and a different structure and forms reveal also the different conditions it faced since both have been crafted by the conditions of their surrounding environment selecting for that form; so too all mountains and rivers and lakes do not appear ‘spontaneously’ or ‘at random’, or even if that water floats into a cloud, but it is an exact process where each of those forms of water diverge from each merely as the result from many ‘forces’ interacting for shape an environment that selects for such a structure.

We readily agree that molecules are not ‘atomic’, but form and are broken apart in perfect stoichiometry based on the conditions selecting for some reaction or not; and all produced, ‘alive or mineral’, is the result of that continual selection and iteration of all units on that environment.

But where did such tomic atoms possible come from? We do already make stars their crucible and we do already admit the obvious that less stable ones decay and the most stable last, but how could it possible be justified that 'then selection ends' and all the stars did was to push together 'the elementary particles' as the individually created species that form it? And that some inherent 'strong and weak' forces magically keep them together because so it was intelligently designed?

The gorgeous conclusion of Robert to On the Origin of Species, the greatest and most important work produced on humankind thus far, sadly errs on the very last; since life was not 'breathed into a few forms or into one' – uncountable many could just as well still being produced and that not by any 'fixed law', but merely by the unending selection of the chemical reactions.[49]

On the Newtonian view long stablished he failed to interpret his geology as the very same process; and to elicit further that the so called 'fixed laws' are the exact same 'fixed species' which he so hard fought to banish – and thus he did not extend his discovery besides the mere arbitrary process called of 'life', but just as the idea of 'immutable species' hindered the field of biology from fruition for so long so has the idea of intelligently design immutable 'laws' and 'elementary particles' as a 'valid explanation' condemned all our modern Physics to this sore state.

Every intellect and reasoning bear witness: There are no gods nor 'God'; Mudammadun made up Allaha.

Who then wrote the 'laws' of motion, thermodynamics or gravity?

Even the most simple interaction of macro-objects is indescribable by any simple equation; there exists no 'elastic body' and all production of 'heat' and emission of energy as photons is not a failure and extraneous things, but it is all indivisible part of the same single process arbitrarily separated – the exact configuration of all its part will determinate the complex result and any 'law' is merely a tool of approximation, or which was such legislator and who is the king of nature for the rock to obey him?

Such myriad of admittances of magical powers and intelligent design are completely unnecessary and unjustifiable; they are so complex on their multitude of characteristics, conditional interaction and so on that they are rather themselves phenomena which require a description and explanation themselves.

There never was just as currently there still is no reason to say that the complex structures we observe are atomic or 'elementary particles', rather it is inadmissible to do so since far from good it is the convenient answer of magical properties hindering our own understanding of the underlying processes.

---

[49] "Having been originally breathed into a few forms or into one; and that, whilst this planet gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved."
– On the Origin of Species XIV, the last paragraph.

There is no advantage to enforce that our, so unstable and changing, equations are ‘the ultimate limit of physics’ and ‘the discovery of the source code that god used to make the universe for us’ rather than merely as the same clumsy approximations of thermodynamic simply generazaling the behaviour of that complex arbitrary object and ‘force’; it is worse than meaningless since it is harmful to all our progress – for the engineering and all practical there is no different if those are taken as ‘real’ or the mere mask of approximation, but for the science of uncovering the ‘truth’ of ‘reality’ only an exact description suffices and nothing could be worse than the admittance of such individual acts of creation intelligently designed by some unknownable deity.

Our unveiling of our origins and the accumulation of successive steps into building ever greater complexity shows us that indeed the Atomists were right; for now it is undeniable to us the very process by which the admittance of a single simple ‘thing’, and the admittance of ‘motion’, could in sufficient numbers build any complex configuration seen today in every ‘particle’ or ‘force’.

Our current ignorance, it pains me to even have to state such a thing, has no effect on the reality of such processes; well before our brains or mammals and animals were formed, before ‘understanding’ existed, the moon was already there regardless of the little logical processes that would eventually arise in brain of apes – that is the entire base of science that allows us to tell what happened in the past, because nothing is ‘random’ but the product of exact causes whose very product eloquently declares its existence.

The Dark Age of Natural Philosophy

I – Showdown Time

On the left, or wrong, corner of the ring we have the gargantuan unit of our modern sciences; that which produced all of our erewhile unimaginable world of technology – raised, coached and still possessed by the spirit of mystical cultists, 'the greatest geniuses of humankind', such as Newton, Einstein and Feynman.

On the right corner we have me; a twenty five years old Brazilian who quit high school and who with unbearable rage at such creationist nonsense on every educative course and programme online was induced, by necessity, to write this treaty – on June of two thousand twenty three.[50]

The sheer mindlessness of the doctrines so long embed into them makes me doubt that even if I could get them to read it that it would receive any attention besides the usual neglect they have as they laugh at all logic and 'determinism'; since identical to the religious foolishness they came from they just laugh having pleasure in declaring themselves 'above all common sense and different from everything else in the world' on the holy pedestal of being higher than reason as the heaven is from earth – wholly unjustifiable repeating Dalton's assertion of the indivisible because 'it looks like that to me' and seeing all question of their mindless assuptions as pure heresy.

But here we go; very likely the moment you all have been waiting for since the first paragraph – let us see how the consensus of our modern Physics, that is Quantum with its Standard Model and Relativity, fare on our evaluation and against my theory of Logical Succession.

It would follow beautifully to 'ring the Bell's inequality' now, but for the sake of argument that must come later.

Let us now analyse our modern Quantum Mechanics and its Standard Model under the same criteria we have exposed all other theories.

In general it explains every phenomena based on 'four forces' and an ever-growing list of 'elementary particles' which being as magical as the 'forces' they simply 'are' as a defined pre-set of some intelligent design; having no parts they just come into being, and disappear, and their many complex properties are randomize by that creator deity playing dice.

Their argument for that is the same as Dalton; they are atoms because they are discreet beyond any different that he can make out – sometimes some are shown to have parts, but they just say

---

[50] For a taste of that ingenious rage, where I curse more than I argument, and the beautiful artistry of my ridicule see my main work of Kaiho.

‘that next one then is indivisible’ and go on repeating the same mistake with absolute no justification for such recipe shown throughout history to be so worthless and not-good of theory as it provides some convenient ‘answer’ rather than ‘understanding’.

The ‘law of inheritance’ is sometimes so called, or a myriad of others we may take as an example, and sadly repeated blindly my most as some actual inviolable ‘guiding force of nature’ when the non-mystical truth is that a sequence of chemical reactions, each independently following what its environment favours to react, ends up creating that sense of order and ‘law’; identical to as ‘heat’ and its ‘thermodynamic laws’, as we have long treated here, are meaningless to the reality of the process which far from any guiding force of their behaviour is the product of individual molecules following ‘the path of less resistance’, that which the pressures of the environment shapes for it – and so too so strongly marked is the idea of ‘laws of physics’ on people they think that as some magical guiding principle that forces everything to follow that behaviour simply by some intelligent design, but identically to before there is no ‘guiding principle’ or ‘law’ as it can be nothing more than independently moving particles each following its own path of less resistance and giving the illusion of ‘order’ and ‘law’ merely by forming structures due to the alike pressures presented to them.

There is only ‘uncertainty’ through the blind ignorance of trying to ‘measure’ by following fantastical ‘laws’ instead of summing all underlying process that produce those characteristics.

The perfectly Platonic form of ‘heat’ that magically performed that behaviour by design was by no means any explanation, regardless of indeed having some use in using that doctrine to predict and construct with, just as the ‘elastic fluid’ of Dalton was a more physical invention that would operate by the same magical rules of that ‘heat’ form; and as both fail to descript the phenomena of ‘heat’ so to admitting some perfectly Platonic form of ‘magnetism’ or any other force performing that behaviour by design is absolutely no explanation to the phenomena before us – just as the modern ‘elastic fluid’ of Dalton, the ‘force carriers’, merely as some physical counterpart that magically performs that inherent design is pure fantasy far from any description of reality.

The modern doctrines exactly mirror those of their predecessors; the life battle of Robert to extinguish the idea of ‘species’ show how ingrained it was throughout all of biology as the great curse holding back the entire field of millennia – just as today the ‘laws’ and their ‘atoms’ or ‘elementary particles’ coming straight from the Platonic dimension of perfect forms as independently created pre-programmed species is the greatest bane of Physics.

Besides all those they also make a myriad of other assumptions, but much less explicitly; as that ‘space’ and ‘motion’ simply ‘are’ requiring no further description than blind acceptance – and even ‘numbers’ too simply exist as perfect forms shared inherently between all things.

All those forces produce ‘motion’, but what is that? They do not condescend do even explicitly admit such inherent characteristic, but just assume the basic concept of it with no explanation or reasoning; or even explain how such unique elementary particles are discreet if they can be changed so much that they can be found in a basically continuous spectrum of velocities and 'energies' – how is something composed of no parts able to be differentiate as faster or slower, how can it gain and lose energy while still being a single indivisible 'elementary particle' composed of no parts?

Admitting ignorance is undeniably better, but let us dive in on specific phenomena to see if from our general logic we can bring about a more agreeable description of what is happening on all this massive factual data of collected 'unique' behaviours.

It is clear that it is 'no good', but we will use the very data they catalogued, for indeed rather than any coherent theory the Standard Model and Quantum are merely a catalogue of every phenomenon with several camps of interpretations[51], to show that they are also superfluous in admitting an unique magic species that deus-ex-machina an 'explanation' for each phenomenon.

The assertion of 'it is random' has never been a serious, valid or useful answer and on the moment that such is admitted instead of logical cognisable causes then the human mind no longer has any incentive to inquiry; and instead it has to be fixed in inactive torpor or distract itself by amusing itself only with bewildering dreams and extravagant fancies – for 'cause and effect' is the entire foundation of all human knowledge.[52]

Such is the same ridiculous assertion just as often repeated by conspiracist on their explanation since 'randomness' differs in nothing from 'it is the action of god' or 'it was aliens who did that'; things that have been professed since forever to shamefully try to justify their ignorance and promote their beliefs since it is a convenient excuse that both 'explains everything' as it is impossible to 'prove that such thing does not exist', but as always they will be replaced by a real

---

"Etiam opera, quae jam inventa sunt, casui debentur et experientiae, magis quam scientiis: scientiae enim, quas nunc habemus, nihil aliud sunt quam quaedam concinnationes rerum antea inventarum; non modi inveniendi, aut designationes novorum operum."
– Novum Organum Unus VIII, where he criticizes that the 'sciences' of his time is just a list of random experiments and not any definitive system able to infer and predict to path to new more fundamental things; where on XI and XII he repeads that critic expanding it:
"Sicut scientiae, quae nunc habentur, inutiles sunt ad inventionem operum; ita et logica, quae nunc habetur, inutilis est ad inventionem scientiarum.
Logica, quae in usu est, ad errores (qui in notionibus vulgaribus fundantur) stabiliendos et figendos valet, potius quam ad inquisitionem veritatis; ut magis damnosa sit, quam utilis.".

"The human mind will no longer have any incitements to inquiry, but must remain fixed in inactive torpor, or amuse itself only in bewildering dreams, and extravagant fancies.
The constancy of the laws of nature, and of effects and causes, is the foundation of all human knowledge."
– An Essay on the Principle of Population.

explanation when we acquire some more knowledge about the phenomena before taken as 'unexplainable'.[53]

Truly I cannot say that such particles are not individually created units and motion is just some metaphysical spirit possessing then; it would be unjustifiable to affirm that with no proof – yet infinitely more unjustifiable is their assertion that they have discovered the 'building blocks' specially created by the hand of some universal deity when all our experience even with such atomic species have shown otherwise, when the very science deals with exactness and knowledge rather than mystic unknowables and when utility itself is thrown away for the sake of some baseless belief.

We cannot assert 'reality is not so', but we can with all certainty assert 'that theory is unjustifiable' as we are simply forced to reject such incoherent non-sequitur proposed upon the phenomena.

I leave now the generalized character of the theory and how it proceeds merely as that which we are forced to admit, as both sufficient and 'more good' than any other, to deal with the less abstract specific descriptions we elicit from it; in contrast to our modern 'explanations', which could very well all be summed with their best 'argument' that 'that is just how the universe is; everything is some perfect form and individual species that is just created and destroyed by the universe at random with clearly no relation to that other one was created or destroyed on the same process because they are all unique and unchangeable although they all share several characteristics and interactions but that is just coincidence from the universe programming'.

To which if you do agree with my argumentation of what is a 'good' theory and that the parsimony to admit the minimum necessary is the way to it then what follows should provide an insight that truly scrapes that which is most fundamental in our universe; and the direct syllogism of it is proved to us so acutely that every other demonstration seems obtuse in comparison.[54]

---

[53] "Omnia determinatas habeant in Natura causas, ex quibus profluunt, & idcirco a nobis fortuita dicantur quaedam, quia causas, a quibus eorum existentia determinatur, ignoramus."
– Philosophiæ Naturalis Theoria 540, where it says 'all things have determinate cause in nature so that it is purely by ignorance we claim something to be random'; which beautiful and correct sentiment I argument here on the firmer ground of 'necessity' rather than feelings.

[54] "onde ti venne?». E io: «La larga ploia
de lo Spirito Santo, ch'è difusa
in su le vecchie e 'n su le nuove cuoia,

è silogismo che la m'ha conchiusa
acutamente sì, che 'nverso d'ella
ogne dimostrazion mi pare ottusa»."
– Paradiso XXIV: 91-96.

II – Less Philosophy; More Physics

We sip of our cup of cappuccino as we deliberate about what we can tell of the mechanical action that produces all things. We still burn our tongue a little, but since we have no infra-red vision that sense of touch is currently our only means to approximate its temperature; the best we can estimate otherwise by pure analysis is that the fire we could see glowing so we knew it was over five hundred kelvin and so too we know our non-glowing cappuccino is below that – or as the dihydrogen 'bonds' are not breaking apart into vapour we know their motion to be not so violent and thus below the boiling point of water.

But the infra-red vision would be a much safer and better way to truly grasp the average speed of those molecules; for we experimented much and are quite familiar with the mechanisms that forms photons – far from random or some 'unique species' we know it a product is exactly proportional to how hot something is, that is, to exactly how fast something changes speed.

Something simply going fast does not shine so we can easily tell that it is not their speed itself, but the collision amid them and their change of velocity that produces the effect; we are also familiar that the photon is not 'generated' for free – it is both bound to the magnitude of the velocities as well as it 'costs' exactly that amount of 'motion' to produce it.

That is, the hot object even in vacuum without being able to touch anything would still cool down by emitting photons so that the 'heat energy', their motion, is consumed to produce that other body; and that is even an amount of energy exactly proportional to the speed of the collision – the collision of some two-particles system is not 'perfectly elastic', but rather leaves that system with a total motion smaller than what they had before, and that 'motion' that was lost formed a photonic structure with proportional amount of 'energy' itself.

Our cappuccino produces infrared due to the current velocity of its collisions; if the molecules were faster they would lose even more energy on those collision and that higher 'waste' would likewise collapse down to more energetic photons being emitted – as the very range of velocities throughout a material produces many wavelengths exactly due to the non-uniformity as they deviate from the standard mean of the system.

We also know that all that 'motion' that is now on the molecules of the cappuccino and forming photons came itself from the reaction of the hydrocarbon with oxygen; we have seen that our modern day Physics uses the magic word 'bond' to represent it merely as an analogy and does not provide any description of what is happening or where is 'the energy' stored and released from, they also do not deign to give any attempt of a description at motion and as for 'photons' they say that 'it is an elementary particle' that appears as a perfect Platonic form from some universal pre-set with random characteristics – we can only be utterly appalled by such neglect and unphilosophical mindlessness, and that their claim cannot hold as an acceptable description since they cannot possible justify that 'unique element of photonic essence' when so clearly we can reduce that 'motion', 'bonds' and 'photons' all share a common building block and are the different disposition selected from a same common ancestor.

Or how could a photon be such 'unique fixed species' from some indivisible 'photonic essence' pre-set when we can clearly see it change to different constituting parts; how is it indivisible when two can join to form a more energetic one or be divided into two to produce two structures of smaller energy? It is impossible to comprehend how something that we can divide so much that we still do not know what is the minimum amount of energy is or what is its smallest part can be called 'indivisible elementary particle'.

Likewise we can see the absolute equivalence when the process runs the other way around; when a photon hits some molecule and is at least partially consumed its parts merely rearrange again as the imparted 'motion' of that molecule – which then indeed is necessary and 'consumed', reorganized, on any endothermic reaction that forms 'bonds' that 'store energy'.

That equivalence does not hint at some hard-coded magical transmutation between unique species, but at a same common factor differently disposed by selection to form all such structures.[55]

Indeed we cannot help by admite the so bizarre phenomena of the pieces of the sun raining upon us so that they hit the pressure sensors of ours eyes and we call it 'vision'; how they unelastically bounce off everything as the beige of the curtains, the green of the walls and the difference of every detail of our faces so that by such variation of pressure on the ocular receptors we discern the tridimensional space around us by means of the colours made-up on our minds – and as we feel the 'heat', that transfer of 'energy', are we not also forced to feel on our minds that the gravity of the great luminous star is ever weaker as it incessantly diminishes its own mass by reorganizing itself to the structure of photons emitting thus its entrails to the void of sidereal space?

Dalton assertion that the sun emitted 'rays of heat' to increase his 'caloric gas' because 'it could not be the same as the ray of light' can sound very ridiculous today, but the very same assertion is today held that 'rays of light' are that separate and unique 'elementary species' rather than the clear physical structure present before us; just as the movement of small particles is the 'heat energy' so to that 'radiation pressure' can be conceived to be nothing but the very identical phenomenon on a smaller scale on which we insist on making the same mistakes of our inventive forefathers and their needless and unjustifiable division of nature into magic energies.

Indeed the 'energy-mass equivalence' equation is about the most famous equation in Physics; so it is rather astonishing how by most no thought is given to the interpretation of it and those who do somehow postulate that a transmutation and spontaneous generation happens at the interaction of those unique elementary species rather than the clearly show of common descent.

---

[55] "Jam vero illa, quæ vulgo elementa appellari solent,
Terra, Aqua, Aer, Ignis, nihil aliud mihi sunt,
nisi diversa solida, & fluida,
ex iisdem homogeneis punctis composita diversimode dispositis."
– Philosophiæ Naturalis Theoria 450.

That is certainly due to the tradition of creating ‘laws’ and ‘species’, but perhaps in particular to one of the most cryptic, and stupid, declarations of Isaac; today rendered as ‘for every action there is an equal and opposite reaction’[56].

What it is supposed to mean is rather intuitive; ‘if I shove something, I also am moved back’. But considering the small particles on the hot cappuccino; considering one which is mostly still and is hit by a fast moving particle – now both of them are moving at different speeds, one more than before the other less than before, but could there possible be any sense in explaining that as ‘an equal an opposite reaction’? When the faster made contact did it ‘create a reaction’ that created energy to the one ahead and then ‘suffered an opposite reaction’ that erased energy from itself? What about the inelastic ‘waste’ of that process; where is the ‘equal and opposite’ reaction to the photon produced?

When the photons are colliding with our eyes to see the cappuccino or read this; where is the equal and opposite reaction happening? When a solar sail is impelled forth by photons produced by the sun, is the sun suffering an ‘equal and opposite reaction’? Or when a body suffers a gravity assist and is accelerated on its course; how could ‘equal and opposite’ ever be a description of anything? The system indeed about ‘remains with the same total energy’, but not by creation and opposite destruction; the planet that assisted that ship lost energy and the ship gained – the slow molecule gained energy as the other lost.

It was an unidirectional transfer.

This all can be modelled by the ‘equal and opposite reaction’, but it is about the worse possible way to describe what is happened; all we see is a transfer – ‘when a body pushes another it cannot donate any movement that it does not at the same time loses it itself, not be taken any from it without increasing the same amount in the other’[57].

I cannot conceive of any dispute that would favour some magic ‘equal and opposite reaction’ rather than the mere direct transfer of some ‘energy’ from body to body; not on the ‘principles of conversation of energy’ as needlessly made-up to account for all that magically of ‘opposite reactions', but on the mere stoichiometric necessity that by transferring a piece of itself, energy, that object now has less energy than before while the receiver has that piece more.

---

[56] “Lex. III.
Actioni contrariam semper & æqualem esse reactionem: sive corporum duorum actiones in se mutuo semper esse æquales & in partes contrarias dirigi.”
– Philosophiæ Naturalis Principia Mathematica: Axiomata Sive Leges Motus, or ‘the third law of motion’.

[57] “Quãd un corps en pouſſe un autre,
il ne luy peut donner aucun mouvement,
qu’il n’en perde en meſme temps autant du ſien,
ni luy en ôter que le ſien ne s'augmente d'autant.”
– Traité du Monde et de la Lumière.

And by adopting such mechanical and clearer description we can much better understanding the process involved; when two hydrogens and an oxygen 'bond' and 'releases energy', 'heat', it merely becomes faster – it was the very pieces composing their original structure which now are differently disposed on that single greater structure which, at that speed, is equivalent in energy to the originals, but which as it 'cools down' by transferring that energy in collisions it is less massive than the lone hydrogens and oxygens.

Or the very exact same process when an atom decay or is forced into other forms; the two 'lighter atoms' are only lighter once they 'cool down' to that previous state of motion – the moment they are formed, full of 'energy of motion', they are certainly as massive as the original, but lose that mass by transferring as 'heat' imparting motion all around it.

The notion that 'hot things are more massive', coming from the 'energy-mass equivalence', is well accepted; yet far from elicing any of this necessary mechanism they neglect as some mystic transmutation between forms converting between some worthless universal ballast called 'mass' and some spiritual power, just like 'heat' was before, that can just possess and inhabit the same space as that ballast or individually in structures different from mass.

Where did that 'elementary particle' go? That unique and individual 'photonic essence' that separates it from everything else in existence as homogeneous and indivisible? Was it transmuted into another 'element', as when two photons collide to make the 'unique species' of the 'indivisible' electron, purposefully by some intelligent law of god? When that 'relativistic mass' become 'actual mass' and magically develops inherent characteristics as 'gravity' or when 'mass' is broken apart and becomes only 'relativistic', is that some hidden-code on the back of the universe that our designer wrote as a 'law'? When 'mass' was 'split into energy' what happened to that 'absolute heaviness' inherent in it? Did it, like Dalton postulated, created a new indivisible species which hard-coded capacity for that energy was different so that now it partakes less of the absolute heaviness by interacting less with the perfect Platonic form of 'weight' called the Higgs field and its bosons?

Science itself starts with the supposition that denies those magical causes; and it begins the scientific processes by looking into the mechanisms to explain it instead – how then have we gone down back to the same worthless magical explanations of purposefully build 'laws' abandoning all the rationality science and knowledge?

Rather we see that it was never some designed universal pre-set and unique created species, but came merely from the reorganization of a same component faced with different environmental selective pressures, and it was never distinct, but composed of the very same parts found on every moving thing, every 'piece of matter' and every 'force'.

This relatedness only points to some more fundamental thing which subject to its environment formed, and continuously forms before our eyes, all these different structures we observe; a line of common descent that links them all to a common shared cause – and not individual separate acts of creation.

There is no perfect Platonic form from which the universe randomly summons its ‘elementary particles’; there is no ‘wave of probability’ to the characteristics that structure will take – we clearly see that it is merely our ignorance and crude tools that hinder us from accounting all processes that by selection were shaped as some exact product of previous conditions.

The same process can be repeated to all other elementary particles; which might there be some new additions made from the time I wrote this to when you are reading it – some of the currents then being demoted from the holy pinnacle of ‘species’ and its parts then for no reason enshrined on that pedestal of immutability. Thus I will pass the tautology of repeating that same argument about the equivalence of every particles; and that rather than magical transmutation into ‘unique elements’ they all simply are composed of the same building block.

The so called ‘forces’ follow the same reduction since when any object is accelerated by gravity, magnetism or the other two newcomers we do not see a difference in the object of some kind of ‘gravity acceleration’ or ‘magnetism acceleration’, but merely some undistinguishable and unique form of ‘acceleration’; that is, all ‘forces’ somehow are both ‘unique’ and generate nothing unique but the very exact same product of ‘motion’ – or better framed, they are the product of motion and nothing else.

That is all they do; and it is superfluous to invent ‘forces’ that do nothing except moving things – the admittance of motion is sufficient and all else extraneous addition beyond justification or necessity.

That is; such ‘forces’, ‘laws’ and ‘particles’ are entirely arbitrary tools that we use to talk about certain collective bits of structured ‘energy’ – but there is no rational ground to say that those are ‘actual reality’ of distinct indivisible powers pre-programmed on the universe together with a ‘transmutation law’ allowing them to be converted one into the other.

And rather to being the design of the gods that made things to ‘have that colour’, ‘to have heaviness’ or ‘to be magnetic’, ‘to have mass’ and so on there is no ‘inherent characteristic’, but merely the product of the underlying superstructures of those particles interacting in exact ways that our modern science somehow decided to neglect to investigate.

Being worse than useless the idea of some ‘finished answer’ and magic ‘law’ has long hindered us to peer further into the actual mechanisms through which the motion of particles would create that ‘macroscopic’ phenomena called as ‘forces’.

Rather than seeking ‘a new law’ or ‘proof’ of some self-realized dark-matter that will ‘fix everything’ and ‘complete physics’ we have to peer further in how these processes are formed and evolve throughout time; and only then we will have both the real description of its moving parts and understand the extant we can generalize in some practical tool as some equation.

When asking ‘what is gold?’ or any other thing we define it by a set of its characteristics.

Gold is that which is yellow in colour; it has a certain weight superior to most of the metals while is more malleable than most up to a certain point – not being volatile nor being combustible or spoiled by fire, but when liquid has a certain level of fluidity and is dissolved only by particular special means.

In case I have the essence yellow colour, the control over the weight, the rigidity, the volatility, the fluidity and so on will I not then be able to combine them to generate gold?

That was the questioning of Bacon against gold being an ‘element’ when it was clearly composed of parts; today by brute force we know those properties to be the product of simpler interactions and not some defined inherent characteristic of that ‘element’ – something that arises on many other objects when the conditions of its building blocks are selected by its structure to be the same.

How can it ever be justified to say some ‘electron’ is such ‘element’ when if we had ‘negative magnetism’, ‘mass’, ‘spin’ and so on we could make? How are all other particles with such characteristic some divine inherent pre-set, and not all merely from sharing some origin and stable component so selected that it causes these ‘macroscopic’ effects? Rather we see they literally appearing from other ‘indivisible elements’; their equivalence in all aspects – and the reduction to the motions of smaller parts that form that superstructure which has the more complex behaviour.

“Such imaginers can put the ‘fire’ on the wood, put the ‘heat’ on the wood and give to it the capacity of being ‘burnt’ as much as it pleases them that no alteration or change would happen only by possessing such inherent characteristics; it is necessary the addition of such movement of its parts that dislodge it from its neighbours and separate them – and to the contrary abstain the thought of ‘fire’, ‘heat’ and ‘burning’ and nothing will be changed on the phenomenon provided solely that there is such power that violently move the particles.”

To which I entirely repeat since I am faced with the same baseless belief that ‘inherent characteristic’ is somehow any explanation of a phenomenon; they too can put the ‘pole’ on the particle, put the ‘magnetism’ on the particle and five to it the capacity of ‘interact with the field’ as much as they want that no alteration or change would happen only by possessing such inherent characteristics, for it is necessary the addition of such motion of its parts for the phenomenon to happen – and to the contrary abstain the thought of ‘pole’, ‘magnetism’ and ‘fields’ and nothing will be changed on the phenomenon provided that we admit simply the motion of smaller particles which multitude creates the environment where we observe those structures and behaviours.

We seem to have reached the same impasse as René on his reduction of macroscopic phenomena, namely those of ‘heat’ and ‘fire’, to ‘motion’, but while that is indeed infinitely superior to the clumsy needless admittance of all those imaginary and virtual generalized ‘forces’ we do not need to follow them all in simply postulating ‘motion’ as some magical force of everything.

However even what was the absolute unquestionable metaphysical admittance of ‘energy’ as some intrinsically separate spiritual thing that acted on ‘mass’ has been brought into question on the interpretation of the ‘energy-mass equivalence’; and with this many phenomena we display that mystic dyad to elicit what characteristics that common ancestor has to all its manifestations – and wonder the nature of ‘motion’.

When a body enters into motions what does it loses or escapes it to cause such transformation of its behaviour? Or what is left or what does it gain? What expands and contracts; what is united or severed – what propels it or hinders it?[58]

Zeno was a man full of silly thoughts, but let us imagine his arrow; or the molecules in our cappuccino or any object liable to motion.

His experiment is about stopping time so that the arrow stands still; and if we move to any other instant of time it will be still – so that doing so in infinitesimal amounts of time he would just see the arrow teleportating from some minimal distance to the other and at no moment ‘be in motion’, but always occupying some space as if ‘at rest’.[59]

Aristotle ‘denies’ that as wrong, although I am unsure of what he is even supposing that Zeno is asserting, by saying that he does not grant that there is ‘indivisible time’, or any other magnitude, but that it is a continuum where it can always be divided further to find intermediary steps of motion between any two points; I say that their discussion is entirely meaningless as they are trying to perform logical operations on ambiguous, and therefore meaningless, variables since they were not rigorously defined – that is, they walk about ‘motion’ and ‘space’ and ‘time’ or all else as a ‘given’ on their own ambiguous assumption without defining any of it so that their discussion lacks all coherence and sense.

---

[58] “Exempli gratia; in omni generatione et transformatione corporum, inquirendum quid deperdatur et evolet, quid maneat, quid accedat; quid dilatetur, quid contrahatur; quid uniatur, quid separetur; quid continuetur, quid abscindatur; quid impellat, quid impediat; quid dominetur, quid succumbat; et alia complura.”
– Novum Organum Duo VI, which the entire V-VI is too large to be put on the note, but beautifully fits as the necessity of anything being composed of all its parts and whence I took the example of ‘the making of gold’ above.

[59] “Ζήνων δὲ παραλογίζεται· εἰ γὰρ αἰεί, φησίν, ἠρεμεῖ πᾶν [ἢ κινεῖται] ὅταν ᾖ κατὰ τὸ ἴσον, ἔστιν δ' αἰεὶ τὸ φερόμενον ἐν τῷ νῦν, ἀκίνητον τὴν φερομένην εἶναι ὀϊστόν. τοῦτο δ' ἐστὶ ψεῦδος· οὐ γὰρ σύγκειται ὁ χρόνος ἐκ τῶν νῦν τῶν ἀδιαιρέτων, ὥσπερ οὐδ' ἄλλο μέγεθος οὐδέν.”
– Φυσικής Ακροάσεως, The Auscultation of Physics, VI.

My illustration, however, is about that arrow; and let us borrow some more of his characters so that a second arrow is shot by Achilles and a third one by the turtle – and now with the three arrows in the air we ‘stop time’, or rather ‘take a snapshot’ recording that moment to be analysed.

Here we have the three arrows standing still, but when we consider some future time what is it that will make them ‘move’ to a different place while the arrows on the quiver or on the ground will remain rather still? How is the ‘information’ that the arrows should move present on that still frame?

The arrow of Achilles is by far the fastest and that of the turtle the slowest; when they begin to move again they accordingly will move different amounts – is that his unrelenting fury fuelling his arrow?

That is about how modern physics view it; with no explicit description they ‘just accept it’ from their ambiguous gut feeling that ‘everyone knows what motion is’ – and that is as good as the gut feeling about the existence of ‘heat’ and ‘cold’.

Just as heat was imagined as some metaphysical ‘energy’ that on the background of the universe stored the information of how much of it some thing contained so today ‘motion’ is that background log of all the characteristics that a particle should have; while the ‘particle’ itself is some meaningless featureless, as it is indivisible, blob which simply channels that universal background log to define its behaviour.

The neglect to such pivotal point of all our understanding is astonishing; and that ‘intrinsic spiritual power’ is not only ridiculous, but entirely unnecessary to admit.

I say we do not live in a cave where all we see are the shadows of those extradimensional perfect forms that all species inherit from, but rather than some key to that magical dimension where ‘the information of motion’ and all others intrinsic characteristics of ‘matter’ are I say we can analyse the still arrows and see they are indeed different; if only we have the tools to peer further enough.

Just as when a photon hits it and transfers ‘energy’, and the collision between objects lose parts forms other photons, so too we can peer into those objects and see all those parts; how it is less massive before transferring energy and how it becomes more massive in the number of its ‘energy parts’ when receiving motion from some other ‘mass’ collision or photon – so that likewise the fastest arrow is more massive than the others and with the capacity to analyse all its parts we would promptly distinguish between them by how many more parts one has over the other.

That instantly lead us to the problem that ‘motion is a vector’; even if the number of its parts is the ‘magnitude’ what is the ‘direction’ component of it?

We can have Aristotle on the other side of the field shooting an arrow with identical ‘kinetic energy’ as that of Achilles so that when we ‘stop time’ we can count the same number of ‘energy parts’; the same magnitude.

What differs now between those arrows?

The answer to that is also the answer to ‘what is motion?’; and it should easily follow that what differs between those two objects of identical number of pieces is merely how those are disposed – that motion is an structural property of them.

And regardless of how pleasurable it is to say something so weird to our senses as that ‘movement is a structure property’, I feel foolish and superfluous right after; for what characteristic is not the result of the structure?

All complex behaviour and property is simply the product of the underlying structure; all ‘energy’ is merely a certain amount of some homogeneous particle – and the movement greater objects show is a product of that structure.

The ‘vis inertia’ of bodies ‘resisting motion’ is merely that exact amount of particles needed to build the structure; while the common ‘square law’ of our forces and kinetic energy is a direct hint to how that structure is organized, since a single structure that impels some object at a speed of ‘thirteen’ is equivalent to the fusion of the smaller structures of ‘twelve’ and ‘five’ or ‘three, ‘twelve’ and ‘four’ – such ‘complex motion’ with its accelerating capacities and retention of its form are thus a phenomena from the underlying simpler structure below.

The idea of ‘frames of reference’ also dies at the moment that we give a physical cause to ‘motion’ rather than the unknowable spirit possessing ‘bodies’; since ‘who is moving’ is ‘relative to each frame’ only because of the ignorance and primitive tools of the observer, but if we have the instrument to peer into those constituent parts that compose photons, mass and motion we can tell by how massive some is and by the organization of its structure that it is indeed the one in motion, or that it is us who is moving.

In order for those smaller parts that compose motion to form an environment and be selected into those more stable structures they themselves need to be moving, but I will treat of it afterwards; for now let us go deeper into this most hyped phenomenon that ever was – how things compress under pressure and the entirely unrelated idea of universal gravitation.

III – De Mundi Systemate

Objects are compressed under stress; a stress is some acceleration, but any object currently moving at any speed have had to have been accelerated in the past so that it remains compressed under that stress until it is relieved by stopping – if we measure a moving object we will then measure that compressed state and not its ‘true unstressed length’ and if our rule itself is moving then it is compressed and differs in measure than a still ruler.

Therefore all our measurements are not an indication of some ‘true length’ and ‘absolute space’, but merely a comparison to those objects since we can produce no ruler immune to that effect;

likewise our clocks are exact machines made precisely by the measurements of those very same unreliable rulers and subject to the same distortion of compressive stress – therefore all our notions of ‘space’ and ‘time’ are relative to the defective rulers we use.

This perfect and complete description of the ‘relativity’ of our methods of measurement was provided on the eighteen century by Boscovich.[60]

---

[60] “21. Illud autem notandum inprimis ex hoc principio immutabilitatis eorum, quorum mutationem per sensum non cognoscimus, oriri etiam methodum, quam adhibemus in comparandis intervallorum magnitudinibus inter se, ubi id, quod pro mensura assumimus, habemus pro immutabili. Utimur autem hoc principio, quæ sunt æqualia eidem, sunt æqualia inter se, ex quo deducitur hoc aliud, ad ipsum pertinens, quæ sunt æque multipla, vel submutipla alterius, sunt itidem inter se æqualia, & hoc alio, quæ congruant, æqualia sunt. Assumimus ligneam, vel ferream decempedam, quam uni intervallo semel, vel centies applicatam si inveniamus congruentem, tum alteri intervallo applicatam itidem semel, vel centies itidem congruentem, ilia intervalla æqualia dicimus. Porro illam ligneam, vel ferream decempedam habemus pro eodem comparationis termino post translationem. Si ea constaret ex materia prorsus continua, & solida, haberi posset pro eodem comparationis termino ; at in mea punctorum a se invicem distantium sententia, omnia illius decempedæ puncta, dum transferuntur, perpetuo distantiam revera mutant. Distantia enim constituitur per illos reales existendi modos, qui mutantur perpetuo. Si mutentur ita, ut qui modi succedunt, fundent reales æqualium distantiarum relationes ; terminus comparationis non erit idem, adhuc tamen æqualis erit, & æqualitas mensuratorum intervallorum rite colligetur. Longitudinem decempedæ in priore situ per illos priores reales modos constitute, cum longitudine in posteriore situ constituta per hosce posteriores, immediate inter se conferre nihilo magis possumus, quam ilia ipsa intervalla, quæ mensurando conferimus. Sed quia nullam in translatione mutationem sentimus, quæ longitudinis relationem nobis ostendat, idcirco pro eadem habemus longitudinem ipsam. At ea revera semper in ipsa translatione non nihil mutabitur. Fieri posset, ut ingentem etiam mutationem aliquam subiret & ipsa, & nostri sensus, quam nos non sentiremus, & ad priorem restituta locum ad priori sequalem, vel similem statum rediret. Exigua tamen aliqua mutatio habetur omnino idcirco, quod vires, quæ ilia materiæ puncta inter se nectunt, mutata positione ad omnia reliquarum Mundi partium puncta, non nihil immutantur. Idem autem & in communi sententia accidit. Nullum enim corpus spatiolis vacat interjectis, & omnis penitus compressionis, ac dilatationis est incapax, quæ quidem dilatatio, & compressio saltern exigua in omni translatione omnino habetur. Nos tamen mensuram illam pro eadem habemus, cum, ut monui, nullam mutationem sentiamus.

22. Ex his omnibus consequitur, nos absolutas distantias nec immediate cognoscere omnino posse, nec per terminum communem inter se comparare, sed æstimare magnitudines ab ideis, per quas eas cognoscimus, & mensuras habere pro communibus terminis, in quibus nullam mutationem factam esse vulgus censet. Philosophi autem mutationem quidem debent agnoscere, sed cum nullam violatae notabili mutatione sequalitatis causam agnoscant, mutationem ipsam pro æqualiter facta habent.

23. Porro licet, ubi puncta materiæ locum mutant, ut in decempeda translata, mutetur revera distantia, mutatis iis modis realibus, quae ipsam constituunt ; tamen si mutatio ita fiat, ut posterior ilia distantia æqualis prorsus priori sit, ipsam appellabimus eandem, & nihil mutatam ita, ut eorundem terminorum æquales distantiæ dicantur distantia eadem, & magnitude dicatur eadem, quæ per eas æquales distantias definitur, ut itidem ejusdem directionis nomine intelligantur binæ etiam directiones paralleiæ ; nec mutari distantiam, vel directionem dicemus in sequentibus, nisi distantiæ magnitudo, vel parallelismus mutetur.

On the twenty century Albert struggles through dozens of pages, and does an awful job, trying to say those words so clearly and succinctly put by Boscovich; rather than the simple ligneous or ferrous measuring stick of Boscovich he used a metal rod, and the square of Potsdamer, and a rock, and a train, and clouds, and sound and lighting to postulate that 'objected in motion are compressed' – that is his 'Special' theory and he uses it then to show how he later almost realized, but clearly failed to do so and truly generalize the discovery as Boscovich had already done, that in order to be in motion the objected had to be accelerated at some time in the past, thus he makes his 'General' one that 'acceleration too has that effect'.

It is often said in science communication videos that 'imagine how weird it would be if an engineer had discovered Relativity instead of Einstein' when mentioning that satellites are always delayed by some exact amount; which is indeed his achievement to randomly try out the equation of Maxwell, normalising the distortion to the inverse of the geometric mean of the square of the current speed by the square of light, to guess at quantifying how much compression things suffered when being accelerated – yet the 'relativity' part is the very same exact observation that if you press hard on something it does indeed gets compressed.

This is all there is to it; a statement about how our current tools fail at the task of being some perfect measuring rod.[61]

---

24. Quæ de spatii mensura diximus, haud difficulter ad tempus transferentur, in quo itidem nullam habemus certam, & constantem mensuram. Desuminus a motu illam, quam possumus, sed nullum habemus motum prorsus æquabilem. Multa, quæ huc pertinent, & quæ ad idearum ipsarum naturam, & successionem spectant, diximus in notis. Unum hic addo, in mensura temporis, ne vulgus quidem censere ab uno tempore ad aliud tempus eandem temporis mensuram transierri. Videt aliam esse, sed aequalem supponit ob motum suppositum æqualem. In mensura locali æque in mea sententia, ac in mensura temporaria impossibile est certam longitudinem, ut certam durationem e sua sede abducere in alterius sedem, ut binorum comparatio habeatur per tertium. Utrobique alia longitude, ut alia duratio substituitur, quæ priori illi æqualis censetur, nimirum nova realia punctorum ejusdem decempedæ loca novam distantiam constituentia, ut novus ejusdem styli circuitus, sive nova temporaria distantia inter bina initia, & binos fines. In mea Theoria eadem prorsus utrobique habetur analogia spatii, & temporis. Vulgus tantummodo in mensura locali eundem haberi putat comparationis terminum : Philosophi ceteri fere omnes eundem saltern haberi posse per mensuram perfecte solidam, & continuam, in tempore tantummodo æqualem : ego vero utrobique aequalem tantum agnosco, nuspiam eandem."

– Philosophiæ Naturalis Theoria: Supplementa II: 21-24.

[61] You are encouraged to go check the final papers of the 'Anni Mirabilis' and see how Albert has the reasoning power of a child; he badly presents the effect and then ploughs through with the most fantastical scene and crassest molluscoidal analogies to try to explain how those magical properties would explain the observation – where at no point any justification is given, but as long customary of Physics he makes up the entire thing and all is valid as long as that magic has some equation that sufficiently approximates the experiments.

The experiments and effects are indeed undeniable, as noticed a century before him, but all the magical admittances is as unjustifiable as needless to explain the phenomenon.

Which, as we have seen, at the moment we stop taking 'motion' as that spiritual property to consider it as a real tangible thing that we can rigorously define and measure, the result of some physical structure of the object, we easily see that the faster it is the more distorted it shape becomes; rather than once again invoking the gods and their design to some universal background of magical properties and laws hidden there so that we can satisfy our itch for curiosity by happily 'discovering' it – at the moment we give up the creationist idea of individual species we are forced to admit 'mass' is just some stable structure formed by those 'energy particles' and which by the addition of more particle as a collision transfer it to it as 'motion' it simply cannot maintain the same shape.

Likewise when we do become able to zoom in and count each particle in that quantifiable motion of acceleration we not only can tell who is exactly moving, as aforementioned, but use the dimension of that very particle, which will have a constant velocity and be not liable to acceleration which is the ratio of the directionality in the structure of giant complex objects, as the measuring rod to quantify, or rather elicit the nature, of 'absolute' time and space.

But Albert, daydreaming as usual, went further into the strangeness of molluscs and the ignorance of lone naked men lost in space and tried to elicit the wildest of unjustifiable fantasies to provide many imaginary forces of why did an object when suffering a force compressed; and so he concluded that it must be some universal background that gets folded, distorted and compressed as the 'fabric of space and time', rather than a closer proximity of the constituent parts of the object.

He somehow tried to squeeze 'gravity' into it and made it to be that very distortion in 'spacetime', although no reason is given to why would any object 'fall' from its rest state into that of having more energy; furthermore 'gravity' is merely acceleration and produces no more that distortion and effect than the acceleration of magnetism or any other 'force'.

Still, somehow, it stuck as the ultimate theory of gravity; even when it explaining absolutely nothing – with the most fantastical and unjustified divine design to explain 'why things compress under stress'.

Now Isaac himself said gravity needed an 'agent' and it could not be instantaneous; it was the fan-base who made it the magical instantaneous force by forcing the mere equation, a tool of approximation, as some absolute universal law – which considered merely when the force was acting, and not the irrelevant 'before gravity got there', and somehow got so distorted as to stimulate that it was always acting.

It is hard to distinguish what is pure fantastical analogy to the imagination and what he is actually arguing to be the state of reality; the very 'geometrization of space' was criticized by him as simply an analogy as how to visualize the equation, and yet he often pushes far into that analogy and stands by it as undeniable truth that all Quantum has to agree to his definitions of the 'universal background'.

Albert was right in repeating what Isaac said in it not being instantaneous; the link to the speed of light, however, was far from any necessity or justification – he just guessed when looking at the equations and made that supposition.

And so as it seemed about right people again simply just accepted that he must have guessed right and 'discovered' the parameters that god coded for the world.

A 'grand proof', although 'gravitational waves' that is the mere consequence of gravity not being some magical 'instantaneous' thing is usually taken as the big one to swallow the theory wholesale, for it is how that adjustment to the equation of 'the law of gravity' approaches Mercury so much closer than the 'classical law' did; how the 'distortion in space and time' explain the faster precession of the planet, however, is beyond anyone's guess – how, exactly, would a 'space distortion' that distorts the planet just as much make it go any faster?

An increasingly popular idea is that of 'cogravitation'; where yet another magical force is invented to match 'magnetism' as a set rather than reducing like phenomena to an equal quase – and so they theorize that the motion of 'mass' generate some secondary field which if they adjust the equations just right could account very precisely to that precession of Mercury that it was tailored to explain.

In the General theory it is already taken that mass truly equals energy and that therefore energy, that is 'relativistic mass', do generates gravity just as 'absolute mass' does; and the new addition somehow wants to put that the 'relativistic mass' somehow generates some extra secondary gravity, 'cogravity', besides the normal one.

Perfectly self-realized, but 'the equation does match the observation' and it might as well get accepted; since one more 'law' and unique species is a casual addition to the world – although the post hoc nature of it, rather than the mind-blowing guess of a prediction proving true, is a very hard hurdle for it.

Just like MOND closely matches the observation of distance galaxies, since it was tailor-made for it, and it is quite properly ignored by most; the absolute joke of the deus-ex-machina of 'dark matter' is even worse – so that with such meaningless self-realized 'theories' of magical forces intelligently designed we are just lost, since just as the General one more closely matches Mercury they both err to the most gross degree when dealing with the movement of galaxies.

Merely our 'law' is some random approximation based on that occult magic belief; no different from the estimation of a 'thermodynamic law' or 'hydrodynamic law' as we observe our little section of the river – whichever magic approximation we get to our direct surroundings could never hold far away on the different environments of the river, and how much less could it ever explain the complexity of the immense sea.

I am far from using the baseless unjustifiable claim that the universe is inconsistent and things ‘work differently’ on other places, but rather merely that we are just now peeking at the myriad of conditions within our heliosphere and it is beyond our current imagination the immense storm currents and cells of the interstellar wind and the multitude of forms in the immense ecosystem of the intergalactic medium; how much less can we account for them all to properly predict the weather of how planets and stars, mere visible particulates suspended in it, will truly behave – a ‘law of gravity’ neither explains anything nor can it exist any more than a ‘law of weather’ could predict all our atmospheric phenomena by some mystic guiding force rather than the consideration of all its inner agents and particles that by selective pressure form all monumental landscape and cause all those tempestuous effects we observe as patterns and order.

But although accepted by many as ‘true’ and as an ultimate discovery of some fundamental designed law of the universe, the ‘geometrization’ of a distorting space was just a figure of speech and example to visualize what the results of that equation. Albert only provided the measure of how much an object distorted; and said that since all objects distort then we have no unchanging measure of length, and therefore neither of time – the assertion of Boscovich, adding simply the quantifying equation for how much it is expected to be compressed, ‘the change of the shortest path’, when exposed to a force.

He was, at least in name, against the geometrization itself; space did not ‘bend’ but it was merely a way to visualize those results – today’s popular science, and even most of scientists, give not a care to make those fantastic claims about a bending spacetime fabric and that is truly an awful distortion of what he proposed.

Still, he is quite to blame since although in name he did not endorse the literal interpretation of the geometrization he not only used it a lot, but he was extremely biased to push the analogy of the geometry too far; as when denying the quantum effects he based it solely on such concept of the background characteristics he imagined to be inviolably true.

Even then the geometrization is indeed very creative and fanciful in dealing with the single most mindboggling part of gravity; since things usually either do not interact with others, and pass on with all its energy, or interact and transmit that energy to another object as itself loses energy – yet that is not as we observe planetary gravity.

If we are floating in the middle of empty space we seem to feel the same force and increase or ‘relativistic mass’, our energy, by accelerating the same amount that it would affect us if we were buried in the centre of a planet with dozens of kilometers of rock between us and that gravity source; the much simpler magnetism can be blocked by objects, but gravity just goes on unabashed through everything accelerating them all with no visible diminution to its own energy – supposing the graviton structure it collides and ‘transmits’ energy accelerating all other things while it itself maintains its energy unchanged.

Energy which seems to disappear to nothing solely with the distance rather than with any interaction.

The fantastical magic of the geometrization of space as a wave pulling them all down to that state while it itself is unchanged is indeed very artful, although completely meaningless in any rigorous context of describing how exactly any of that occurs beyond the usual intelligent design since, as Dalton explicitly justified his laws, 'an agent so important in nature cannot be doubted to be controlled by general laws'.

As sip of our cappuccino we observe out of the window that the languor of the overcast sky rains down; and looking at the droplets of water we know they are dragged down by the phenomenon of 'gravity'.

Erstwhile I thought I had the answer to some observation I raised whilst watching rain fall; I would ask 'when does the droplet have more energy?'.

When it is in the cloud up above? When it hits the puddles on the ground? Or somewhere in between?

The puddle is 'hotter' than the cloud so out of these two we can easily pick one; or should we account some inherent magical 'potential energy' within it? But by falling it also went farther to all those galaxies to the opposite side of the universe increasing that energy all the same as it decreased that energy by approaching others, did it not?

Rather than such imaginary thing we can quite ascertain the superior energy measured at the higher temperature at the puddle, but when it started to fall from the cloud being accelerated it pushed the air molecules in the way transferring energy to them and making them more massive and when colliding with the puddle itself it rose a wave as the ordered behaviour of molecules under the same pressures.

How does it have more energy on the puddle than on the cloud if during the entire way it transferred energy to the air and the water? How did it leave a state of less energy on the cloud, gave all such energy to its surroundings and it ended in a state of even greater energy?

And then how much more disturbing it becomes in case I take the said water, or any object, so that I am spending my energy, losing mass, to accelerate it up; where naturally it goes on gaining mass – until I finish stretch my arm and I spent all such energy even if the object, having decelerated and stopped, has the same mass as before energy was inserted on it!

Its mass leaked out to the unknown!

It is unthinkable that it would also 'pull on the earth with an equal and opposite force' and not only receive all that energy from 'nowhere', but also increase the mass of the earth at the same time as earth increased the mass of the droplet; like on the early mention of a gravitational assist the planet had to end up with less energy if the other object ended up with more.

The absolute failure at stoichiometry of the energy or mass particle is beyond clear on all scenarios, but let us take two equal objects to make it clear.

We are some massless power in an empty universe as we propel these two objects forward, they being at some distance from each other; as they receive energy they become 'more massive' – and as its 'mass' increase so does the strength of its gravity, or their 'relativistic mass' which does produce a 'distortion in spacetime' just like mass.

Thus travelling on the course of the vacuum they will attract each other with greater force than when they were less massive.

After some time they will eventually touch each other and at that point they will have their original mass, the mass that was added by their initial acceleration and then supposedly a third mass that began to exist in consequence of the attraction between the two bodies accelerating each other to a centre point; so that they have now more mass, or energy, than the sum of their original masses and that initially inserted into them.

If we did this with they both already touching from the beginning we would end up with a different result, since they would not give any velocity to the other; and likewise if we try to separate them we will have to expend that energy, but if we first stop them from moving, as taking that energy on a motor, their mass will decrease and it will require less energy to separate them than when they were more massive – so that we take more energy from the system than originality there was, and we repeat it infinitely with our motors first collecting the motion energy before separating them and accelerating them again.

Such absurdities are the result of accepting inherent powers that magically perform that phenomena by design instead of the proper stoichiometry of its parts.

My thought before was that the answer was rather clear; just like by having any heat they would radiate that as photons, which is just the structure formed by the many energy-particles lost during the transference of them from one body to another, so too gravity is some internal process within that structure we call 'mass' and which radiate its insides so that other bodies, being struck with that free energy, receive it.

The droplet has mass and would be irradiating energy all the same, but much less would earth receive from it than it receive from the earth; and if indeed the earth showed an equivalent acceleration then it would be because those irradiated particles were part of the structure of matter, as a vortex of particles around it, which being absorbed by the droplet did not get re-absorbed by the earth so that it destabilized the forces on the earth pushing it on that direction it did not receive the expected particles.

More massive objects then would receive more energy simply because they would interact more with that shower of particles; which fits so very well with light since the acceleration experienced by objects can be described on the geometrization truly as all masses accelerating at the same rate just as that each mass receives proportional energy to it – but the bending of light cannot be explained by the geometrization since the red or blue shift does not occur in exact wavelengths of space, but solely by interpreting it as the rate of interaction of that energy.

While five hundred grams and eight hundred grams all accelerate the same in space, by receiving energy exactly proportional to their mass, that is not so with light; a five hundred nanometres wavelength will only change its range by an exact proportion to its higher energy so that a eight hundred nanometres wavelength will change much less the length of its wave in space to account for that proportional energy change.

The two objects in vacuum there will only accelerate as much as they also lose energy on that radiation of gravity; and indeed end up with less energy from all the gravity that was not captured by the other body – so that they would not 'remain in motion forever', but just like objects cool down it would lose energy until becoming too unstable to maintain its structure.

Thus the droplet would have most energy right before transferring it as motion to the puddle; or whenever it achieved its highest terminal velocity.

From that also comes the necessity that gravity does indeed gets shielded and weaker, but that the masses are simply too small to make any visible difference to us or to separate what they shield and what come from them themselves for more massive bodies.

But while all that is a possibility and not by far any stretch of a supposition, I eventually saw that the conjecture was rather meaningless after I elicited the nature of movement; since by movement being a structure property we cannot truly say that those objects gained any energy until we can truly count those energy-particles forming it – instead of a complex 'force carrier' that would enter mass and somehow be absorbed to change its direction towards the collision rather than away we can much more easily suppose some prion-like particle that would simply disturb the structure of that mass, rather than being absorbed, so that the new structure pointed towards the origin point of the prion-like while the prion would move on as an enzyme not being consumed on the reaction, but merely decaying with time as it moves on fainter and fainter.

We cannot truly measure if a planet has lost energy to the tiny probe, but on every scenario it merely would lose the constant rate it always emit of such particles.

Could that restructuration of Mercury, turning its 'mass' into 'relativistic', become a component as if the planet were lighter so that it ends up precessing faster?

Perhaps the prions eventually reach a stable state where their decay slow down, and that makes the apparent less decay of gravity on the scale of galaxies?

Or perhaps gravity collides with things and rather than being absorbed or re-structuring it without changing its energy it is knocking off some number of its energy-particles so that the structure gets selected to keep those that move it 'down' on the direction of the collision.

To explain the blueshift of light, however, becomes much more trickier; and all those explanations are plausible physical phenomena already known rather than any magical force – my conclusion is that the speculation into this unknown 'force' can still not bear any fruit since we know too little about all these structures to have anything better than our current crass generalizations, and which acceptance of intelligently designed laws, even when shown to be so flawed and imprecise that requires the making-up of 'dark matter' explanations, has hindered us from peering further into what truly causes this weird motion that became the grand force igniting stars, collapsing planet and forming us.

It is rather harder than the obvious answer that photons might not perfectly stable structures and so lose energy as a product of its internal mechanisms or by the mere interaction with the sea of particles on the non-empty 'vacuum' it traverses; just as any special weather even on our most direct stellar vicinity could redshift and weaken them gradually further as the weather worsen by providing more resistance – which, again, is proportional to their total energy and not some fixed wave of length.

The observation that photons lose energy over time exactly proportional to their total energy followed by a conclusion that 'then the 'fabric' of the universe is expanding and taking that energy' is perhaps the most insane and non-sequitur jump of logic that I have ever seen; it flies straight to the top of the mount of madness – to see an object losing energy and propose the 'explanation' as some unique and entirely new and inexplicable phenomenon is as bad as you can get at guessing.

Much worse than simply 'unnecessary' and 'unjustifiable' such statement can only be found when someone goes out of his way into the realm of fantasy to create the most fantastical scenery that he can. It even makes the self-fulfilling 'dark matter' seem rational in comparison.

If tomorrow we 'found out' a 'new force' which could magically fix all our measurements and 'complete all of Physics' that would be little better than the statement that 'god made everything'; engineers would be elated at the dream solution to everything, but our understanding of the universe would be the same worthless answer that 'that is just how it is' as we continue ignorant of the mechanisms underlying all such unique species and magical forces.

I cannot possibly elicit what is that structure or even provide, by means of pure logical deduction, some better quantification that will not be so awfully wrong at the sea of long distance; but I do say it is a sea of a myriad of factors to consider and that the change of model from those 'laws' and 'species' is what will free them from being cryptozoologists seeking that intelligently designed species, the 'law', that does not exist at all.

It is too much conjecture and only actual studies on the details of its parts will reveal how it works; all we can affirm is that it is not some divine magic energy intelligently designed to do that, but the product of the underlying structure – there will is a 'law of gravitation' as much as there is a 'law of weather', that is purely the product of thousand folds particles which a simplistic equation of some magically designed force will never describe, and rather than 'universal gravitation' it exists solely to those objects capable of the increase and decrease of acceleration and not to anything smaller or those very 'energy-particles' that compose the structure of motion.

IV – For Whom The Bells of Inequality Toll

On this short part of the work I will treat of all the many experiments that 'proved Quantum', or 'supported it', by 'subverting the expectation of predictability'; namely that of 'hidden variables' – I will do so, like the entirely of this work, with a proof by Invariance. I will use the theorem of Bell as an example to elicit some invariant present on all other experiments and from it argue that the state of 'correctness' could never be reached from those experiments with that invariant.

Namely; the assumption of intelligently designed species individually created.

The paper about 'elements of reality' is quite pleasant in so simply bringing a proof by contradiction by showing an impossibility that means the original supposition has to be wrong, or 'incomplete'; yet it failed spectacularly as they tried to use an argument ad absurdum against the most absurd minds ever known – the quantum world just gobbled up entanglement and as true madman embraced the insanity as show that their religious doctrines surpass all logic and 'classic thinking'.

But while the paper was praiseworthy, much less so was Albert who disapproved it as 'the elements of reality' did not bother him; his sole problem was that quantum disagreed with his own imagined ideas about the configurations and limits of his magical 'universal background' – he was right in denouncing the illogical randomness, but on very wrong grounds to assert it.

But the main point I elicit from that famous duel of ideologies was that Albert had already lost from the very beginning; when the supposition was accepted that 'there can be any magical particles that have any complex behaviour as long as we are able to describe some state-machine as a function'.

Quite akin to Epicurus arguing that god cannot be good and using his own arbitrary definitions of both goodness, god and every other variable he used; at moment that the assumption 'if god is real...' is accepted, just as any other baseless claim, any myth can be invented to justify those mysterious ways – as high as the heavens are from the earth, so too the assumption throws us on the worthless admittance of any other baseless claim.

The entire fight was made upon the idea that truly are 'elemental particles' that appear from nowhere independently of anything, albeit weirdly equivalent in energy and other things to the previous process that happened just there; and as they saw something non-random, but a relation between the two, they kept their doctrines and followed on with their illogical explanations – building ever deeper on the most meaningless supposition – and so they discussed back and forth about what magical intrinsic properties those elements were allowed to have and how to harmonize their fantasies of the universal background with it, rather than explaining the phenomenon of how two particles that came from a single process could be related.

Well; a child could tell it simply was not random – a same process and environment created those two and they are thus complementary parts. As related as the angles of the intersection of two lines; by knowing one angle you suddenly know the opposite and complementary angles to it – even the opposite of the complementary!

And be there a parallel line far away you know the exact angles of that intersection too; as soon as you measure the angle of your line, voilà you know with no delay the other angles!

How could those angles communicate to it each faster than light? How could you know the angle far away by only measure the near one if the information does not travel faster than light?

That was the problem Albert had with it; and by merely being rational for a second and knowing the reality that nothing is random, but the product of the process that produced it, he would instantly have his answer – but with their heads in too deep they simply discussed upon the inviolable assumption of those species specially created at random, a baseless assumption not only beyond any justification, but one which had absolutely no reason to ever be postulated on the first place.

The common conditions of the environment produced those related results; just as all of its other parts and internal mechanisms can be nothing more than the product of that – and not some yet another magical 'hidden variable' as it was 'created at random'.

And thus too the bells of 'Inequality' toll in vain to this foolish meaningless argument of who guessed right at how god designed that species to be; it merely tested which fiction was closer to the observed on experiments – and there being no randomness governing it, but being related as the product of a same process, it did indeed shew the relationship of their common origin rather than the randomness baselessly hoped by Albert.

He instead should have used his rare demonstration of sagacity and used the later 'quantum fluctuations' as another obvious example of 'Brownian motion', although even when he did so he was arguing for the nature of 'heat' as kinetic motion not daring to suppose the Brownian motion as that exact atomic scale of nature yet; so it would be too much of a stretch to hope that he would truly use the myriad of invisible particles interfering with bigger objects and being also the material that forms new structures in accordance with the conditions of its environment – as atoms are, and any quantum fluctuation surely too that smaller world which reactions compose all so called ‘elementary particles’ we observe, which are merely the most stable ones since the less stables are less fit and so promptly decay back to its component parts.

Still he somehow scratched at the concept when he had the idea to ‘make everything as fields’; one idea which could perhaps give a common origin and cause to the ever-growing list of ‘elementary particles’ or like his energy and mass equivalence destroy further the eternally standing doctrine of dyad of matter-energy or particles-fields, but it was rather superfluous making up new magical powers to add to the old ones rather than reducing by necessity that all of matter and said ‘forces’ or ‘fields’, and the ‘energy’ they ‘produce’, were nothing but ‘motion’ – or the ‘energy-particle’ which compose everything differing merely by its organization to make all different ‘elements’ and the gradations of motion.

These two reigned supreme and every common man has heard their names, yet that does not mean there are not ‘alternatives’ and fringe theories to is; even then I found none to be worth of any mention here; they can easily be shown to be superfluous and failed on the very structure and logic of its conclusions, so do not expect me to go down into the worthlessness of Strings here – thus I rest my argument here, and all of the ‘support evidence’ of the ‘Quantum predictions’ are by the same argument solved with the simplest of logical intuition.

At the moment we ascertain ourselves that there is no justification to the claim that this random particle we have is some indivisible atomic species then all of the occultist doctrines of Quantum are instantly destroyed; all inherent magic and uncertainty exist iff, if and only if, they are indeed some intelligently designed inviolable packet of the universe – which they have been taking for granted such assumption supported by nothing but pure blind faith, and which as been proven wrong time after time even in the recent past.

When we analyse upon which grounds rest the claim arguing why those random particles cannot possible be divided and why they are sure there exist no smaller phenomena to explain it ‘classically’ by logic but solely the intrinsic inherent magic, then we at once untangle all the twisted mess of Quantum as nothing more than the product of crass ‘macroscopic’ approximations feeding the occult beliefs of fertile unscientific minds.

All Physics as we know it, which is the dyad of hand-tailored ‘laws’ to guide intelligently designed ‘particles’, breaks apart at the moment we, as Charles Robert Darwin did, start to question upon which grounds we can affirm that there is no other, or no better, possible explanation for what we observe than that of separate individual acts of creation for every species.

There is nothing wrong with a mathematical description and it is the rigorous way we will define and count every component as exact integers as we come to truly describe reality, but a fantastical state-machine that lists every known configuration and returns a different set every time we peek at it is no quantification and measure at all; how much less a proper and exact description of anything.

It from definition differs from ‘the elements of reality’; and the predicate itself already assures us that all conclusions and work done upon it are merely fantasy.

The so common eagerness for ‘competition’ and ‘answers’ that when their current ground shakes they jump to the safety of the next the thing they can still call an ‘immutable law’, aided by the magical entities of ‘elements’ which are beyond all logic and description; truly the work of schoolboys and not the rigorousness expected of men – how much less of those how say themselves to be scientific one.

As there was never a reason to call water an ‘element’, except for our incapacity to peer further and our preconceived notions of creative design, so there never was to call its fission into hydrogen and oxygen as elements; nor for the interior parts of it as – nor again to so mindlessly today repeat the same worthless assertion about the interior parts of that ‘atomic’ nucleus, the quarks.

How was it ‘surprising’, or so are titled many of the articles, to find the sea of quarks as our tools become more powerful? How surprising is it that some baseless belief on intelligently designed species proved to exist only on their imagination?

Rather than a simplest possible particle or an individual act of creation their many ‘colour’ reveal plainly the precise clockwork of some complex structure that runs in many loops and forms; one whose gigantic untenanted halls are simply still beyond our incipient capacity to sound its many ‘metabolic’ pathways that form each of them, the parts where they differ and together form the greater structure they compose – it is a curious phenomenon which requires a great deal of description and nothing could me more antiscientific than simply say ‘that is how god created it’ and it fulfils that complex purpose by pure magical design.

Indeed the perturbation theory used to approximate results is a great quintessential example to all of quantum mechanics; the crassest and most mindless approximations ever made. Not only do they claim universal ‘laws’ and ‘particles’; they even are wrong about the prediction of such ‘laws’ every time – the very ‘quantified randomness’ of their dice-playing state-machine ‘model’ is not right even in their quantification endlessly find ‘things that should not be there’ and that the world is not their simplistic quantified species, but the ‘distinct atomic packets’ are merely structures we have not yet resolution to differentiate.

Every experiment proves how wrong their magical quantified particles idea is by showing how much more complex and unknown smaller factors are there, but somehow they ignore it and plunge on with unshakable faith on their doctrines that they hold the ultimate indivisible building blocks of everything; and so they go making up ‘virtual particles’ that are ‘ok’ to exist since ‘they last very little time’ – they say ‘it is harder to predict small-energy systems’ and blast it with energy since it is ‘easier to predict high-energy systems’, and even then it still differs wildly at every experiment so that they are happy if their divine irreducible law engraved on the background of the universe is merely an approximation of the average of it all.

They literally by brute force overcome all the 'uncertainty' of the underlying structure and take a single most powerful term of their idealized perfect Platonic form to dominate the equation, like the perturbation, and call all the smaller phenomena 'statistical fluke' to be truncated and discarded in favour of simply their idealized initial term; that observed undeniable so crass error and discordance of their ideas is not the very reality before their eyes – it is just a fluke from the universal dice and it has to be gotten rid of for the sake of their idealized divine design!

If they did discover something where that would seem like too much of a stretch they would very likely invent their own dark matter or new forces to keep on with their mindless deus-ex-machina of phenomena.

The supreme highs of illogical absurdity on their wilful blindness of self-realized doctrines can only be rivalled by Daoism itself.

Quantum Mechanics was truly hard to understand because it is virtually impossible to comprehend what those people could possible be thinking to be able to be so wrong; truly the commination of all human sciences they managed to prove that the sky was not the limited as they plunged through the stars – farther and deeper and more complex than all human disciplines thus far, but simply that was done at the wrong direction and is the most wasteful endeavour we have ever produced.

The mere fact that those 'elementary particles' can have different speeds conflicts with the very idea of 'elementary'; since 'change' and many different forms are the characteristics of the complex and not the 'simplest' indivisible – to the very contrary since they can not only change to many forms, but directly be added to and subtracted from it is proved on the strongest form that they are indeed divisible on all such parts and far from some homogenous unique magical essence, if the fact that they are literally formed by collisions and undone to form another particles was not already undeniable proof of their shared building blocks.

The only 'wave property' we see is that of yet another sea; the one on all the 'empty space' of the 'atoms' and which myriad of particles yet unknown do indeed create waves as they all act collectively by individually reacting to the same environmental pressures – selecting new structures and creates the weather and environment that produces all the 'uncertainty', all the 'weird unpredictable behaviour' being directly analogous to the 'randomness' of Brownian-motion, that lower-energy systems have.

At the infamous double-slit it does not 'interfere with itself', but with the myriad of smaller parts that compose it and give it all its behaviour and characteristics; and the very outside environment. Does not a 'classic particle' form a 'classical pattern' instead of a perfect accuracy hitting always on the same spot? Are we not sure that such variation is not because of some inherent magic, but merely the uncounted for myriad of forces affecting its path beyond our knowledge? How could possible we, when observing another pattern, ignore all those uncounted for things as inexistent and say it can only be some alternative 'non-classical' reality that transcends all logic and sense?

That rather than being negligent of accounting and ignorant we simply have to accept that it is just that the world collapse things into existence at random? Taking the insane assumption that those are 'inherent' intelligently designed characteristics of that indivisible species is the only way to produce the even stupider assumptions of quantum absurdities; if the result changes by 'observation' it is clear that the crass observation is exerting a selective pressure, the stronger that interference with it the more it will push the final result, which summed with its other environmental factors thus produce other forms just like any other interference will push the final result to another shape.

Just like aufbau is very useful and still used even when so many exceptions are known, so too are all our modern 'laws'; they are tool of approximation, but as there never will be a perfect and 'complete' 'law' to describe the shells of electrons so too about any of their interactions – because, just like the shells, there is no guiding intelligent design, but the mere compound behaviour of all that environment selecting the most stable[62] form that they will shape.

Or is it not the Mendeleevian periodic table one of the most beautiful, and useful, works of art we have? But far from indicating independent acts of creation for individual species, or 'laws' for their interactions, their characteristics and classification point at some more fundamental structure which produces that higher complexity of behaviours they display; the things that give gold its 'distinct' set of characteristics as 'yellowness' and 'malleability' and noble 'irreactance' to being dissolved, but which some present in other objects elicit their common cause – and the things we are yet to discover that produce 'polarity' and 'spin' and 'mass' in so many particles, but not in others.

Even beyond their 'indivisible particles' nowadays even large molecules show the same result, but they can only suppose that the entire things ceases to exist 'as we know it' to become the 'random wave' before coming back to existence only when 'they can measure it'; and every time we cannot trace its exact path then 'it cannot possible be that we just do not know how to calculate it at every moment, it must be incalculable' – indeed how can they still insist and 'get a kick out of how the elementary particles behave differently from everything big', as so madly Feynman declares, when complex molecules and forth will behave the same if the same conditions, in proportion, are presented to select for that same behaviour?

This was all the repetition of the photon example earlier; and before it descend into rageful rants let us leave here, as said before, that it can be applied to all others 'elements' with very little difficulty – in how a mechanical description and hints of some underlying structure are the only logical assumption we can make, and the worthlessness of magical divine designs that simply are made by the universe as a pre-set species to perform that function.

---

[62] 'Stable', I repeat, not being some 'state that the electron wants to be in' or some other mystical universal 'entropy' guide, but merely the result of selection; that which is unstable is less fit and goes extinct and decays – all its component parts thrown into the environment which will shape new things endlessly forming ever more complex forms of stable structures, and thus those we observe.

Rather than the pointless tautology of repeating that even further here I will end this treaty; hoping it has been clear enough to at least crack those holy doctrines and make you question if there is, indeed, absolutely no reason to defend the invariability of species postulating that any of what we now observe is an indivisible 'fundamental particle' – and that the baseless faith upon which such Quantum Mechanics are founded are a Dark Age to all Natural Philosophy as it for over a century has so brutally hindered the progress of our understanding of the world.

V – ὅπερ ἔδει Δεῖξαι[63]

I close it by remembering the reader of how much analogy and figure of speech I have used; that I have affirmed that a single homogenous 'particle' suffices to evolve into the behaviour of all phenomena known – provided that it is discreet and has a direction.

And so I have many times described them as these threedimentional voxel in space that entangle in giant structures; making the exact clockwork of everything we observe.

That is much better than our current models, but I highlight here I used of this very childish explanation in order to bring the reader into the mind-set of simpler rules that could select more complex structures; what these 'three assertions that explain everything' mean is much deeper than the voxels.

For example that would do the very awful thing of implicitly assuming that 'space exists' for those voxels to be in; as mentioned Quantum and the Standard Model do not assume only that myriad of 'particles' with their inherent characteristics and 'forces', they assume space and time themselves implicitly just as 'numbers', which discussion you can have fun reading Aristotle to see how if anything has some intrinsic property in relation to another that cannot be reduced to the same single measuring rod then it is necessary to assume that 'numbers' are some perfect Platonic form and intrinsic characteristic of things.

For example the comparison between 'the force of gravity' and other forces implicitly assumes that 'numbers are real'; and on the background of the universe there is the 'perfect form of numbers' to which those forces would have to refer to in order to be that exact magnitude of some other.

My three ones do not assume numbers or any such magnitudes, but numbers and magnitudes themselves are the product of those particles; one particle by itself have no 'intrinsic number' and magnitude, but ‘number’ and ‘magnitude’ is merely a word to describe a collection of such particles.

---

[63] Between 'conclusion' and this I was forced to admit the infinite superiority of having this as the name of the final chapter.

Likewise ‘space’ and ‘time’ are not assumed; they are derived from those three postulates; again to a single particle ‘space’ does not exist, but only comes to be as a concept when considering the relation of two or more particles – the postulate that they have a ‘direction’ is used for the lack of a better definition of such ‘intrinsic property’, but it is the behaviour that the their relation of ‘space’ to each other change. How many changes take to reach some other relation between particles is the ‘absolute time’ or ‘tick rate’ of the universe.

By being ‘discreet’ and having that ‘direction’ they are forced to have some interaction, rather than ‘merging into one’, when they collide; and that is the requirement for them to form messy loops and shapes creating the environment where stable, and more complex, forms can arise.

These three axioms are the most complete, and simplest, description of the universe describing all the rest as complex phenomena formed by the complex structure of a multitude of them which interacting creates the entire micro and macrocosms.

If there was a single particle, or none, then ‘space’, ‘numbers’, ‘time’ or anything else would not exist; they, like all other phenomena proceed from the rich initial condition of the myriad of particles our universe had – the discussion of which were those conditions are entirely up to experiments to determinate.

As for the ‘explanation’ of why those rather than any other or about those three admittances and reason for that ‘intrinsic property’ then I can speculate no further with what I know at the moment, but far from saying ‘this is the intelligently designed law of god for this universe and there is nothing else to discover’ I saw the direct opposite – I used the very same hated term ‘intrinsic property’ exactly because it is no valid explanation, but left for posteriority to peer further.

‘Ignorance more frequently generates confidence than knowledge does’; and far from saying ‘science will never know it’ I take the only justifiable option of looking for exact and complete answers.

Thus let us no longer copy Aristotle in giving ‘natural tendencies’ to each ‘element’; let us no longer imitate Dalton, and the entirety of our past revolution, in spending our lives seeking for some magic law from god that will ‘explain everything’ – let us truly seek Scientia and proceed carefully not being hasty to jump at unnecessary conclusions, and much less entirely unjustifiable ones.

Let us not suffer the helplessness of thinking some diseases more divine than others; let us not blind ourselves with mysticism by thinking some phenomenon more unique and singular than others – so that we may find the cure and exact description of how everything that has been formed, that currently is and that shall be is the product of sequential steps in Logical Succession.